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THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

JULY, 1880.

TUBERCULOSIS FROM A SANITARY AND PATHOLOGICAL POINT OF VIEW.

BY GEORGE FLEMING, F.R.C.V.S., ARMY VETERINARY INSPECTOR.

(*Continued from page* 315, *vol. X.*)

THE tubercle at first is very small, about the size of a pin's head, then that of a pea and a hazel-nut. In the first condition it looks like a little transparent nodule, and it is only by the aggregation of these nodules that the larger, variable-sized, mulberry or grape-like masses are formed. As the nodule increases in size, it becomes partially, then totally grey; and on section of a mass at a still later stage, it has a speckled yellow appearance, the speckling gradually becoming uniform throughout the whole. After a time, the mass becomes fibrous and undergoes calcification—this commencing here and there, and soon becoming general. Besides, and often in addition to calcification, softening or caseification takes place, the tuberculous tumours or deposits undergoing a kind of cheesy degeneration. This is the most dangerous kind of tubercular regression, so far as general infection is concerned: for, according to Charcot, it is a fact gained by science of the present day, that tuberculous matter arrived at the stage of caseification possesses the property of propagating tubercle from place to place. It seems to be then ripe and fit for the production of seeds, which may be detached from the softened mass and carried by the lymphatics to germinate at a greater or less distance. From this point of view tubercle is

a truly malignant infecting new growth, and this property of infection has been well brought to light by the labours of Virchow, Rindfleisch, Lépine, Ponfick, and Charcot.

It is indisputable that among the tubercular lesions of Phthisis, there are some which should be considered as lesions of secondary origin, radiating around primary foci. Viewed in this light, tubercular lesions are often better understood as a whole, and often also their clinical interpretation gains by it. This diffusion of tuberculous matter around caseous foci takes place within very variable limits, and we may, according to M. Charcot, establish three stages in it—local or direct infection; infection at a greater or less distance by the lymphatic vessels; and, lastly, generalised infection, dissemination of the grey granulation throughout the whole organism. The grey granulation is, in fact, the form taken by tuberculous matter emanating from caseous foci.

Professor Lépine has insisted, and rightly, on local infection by simple contact. If the pleura covering a tuberculous lung be examined, tubercles will be seen to be propagated there, in what manner will be stated later. This is what is seen. The visceral pleura is studded with granulations, which have not, however, excited any reactionary process in their vicinity; no false membranes are to be found at their level, no adhesions to the subjacent parenchyma. But if the parietal pleura of the part immediately corresponding to the granulations on the opposite layer be examined, columnar masses of superficial granulations will be found on it. Their development evidently results from contact with the primary focus; there are no traces of tubercle on the parietal layer, except in places corresponding to the tubercles on the visceral layer. But the development of the secondary granulations does not take place solely from immediate contact; it seems as if the seeds emanating from the principal focus have been sown, to a certain extent, in all parts of the pleural cavity. These secondary, erratic tubercles are found especially in the neighbourhood of the tendinous leaflets of the diaphragm, around which they form crowns, the subpleural lymphatics being very superficial there (Bizzozero), and presenting stomata. However that may be, it is not unreasonable to admit that the process in the pulmonary parenchyma is much the same as that in the

pleura; that a certain number of the granulations there seen are produced through direct contact of the granulations with the constituent elements of the organ, and in that way the marked confluence of the granulations in certain parts may be explained.

Infection by lymphatics, if the disposition of the lymphatic system as described by Grancher is correct, will readily account for the propagation of granulations in all parts of the parenchyma in the visceral layer of the pleura, and in the tracheo-bronchial glands. Tracheo-bronchial Adenopathy is very common in tuberculous children. Parrot has said that these glandular lesions are all consecutive to lesions of the pulmonary parenchyma, only at a more advanced stage. This relation is established by the lymphatic paths, and the lymphatic may often be traced, if a superficial focus be in question, as a nodular cord connecting the primary pulmonary focus and the secondary glandular focus. Histological analysis enables two distinct elements to be distinguished—(1) the lymphatic channel, generally filled with leucocytes in a state of granulo-fatty degeneration, or with caseous detritus, proceeding possibly from the focus; (2) nodules or swellings at different distances, which are simple or compound tuberculous granulations. The lymphatic gland itself also contains a number of grey granulations, remarkable, as Schuppel has well shown, for the predominance of giant cells; they are seated in the follicles of the gland. The nodules may be readily studied in another episode of Pulmonary Phthisis. If a tuberculous ulcer of the bronchial mucous membrane be examined, there is seen, under the muscular coat, a stellate cavity containing a tuberculous granulation and endothelium; it is a lymphatic, the calibre of which is narrowed by a tuberculous nodule, proceeding from the primary focus, arrested in it. The nodule may become in its turn, the point of departure of secondary nodules, by direct infection of the neighbouring tissue. In that case it attacks lymphatic capillaries hollowed out in the connective tissue, without distinct walls. But the same disposition is met with in lymphatics of a more complex organisation—for instance, Tuberculous Lymphangitis of the lacteals, which convey, as Cornil has demonstrated, tubercles from intestinal ulcers to mesenteric glands.

The lymphatic system may be invaded in its whole extent up to its entrance into the circulatory system. Ponfick has lately recognised, in the thoracic duct, traces of the passage of tuberculous material. There, too, these traces consist in the presence, at intervals, of small nodosities, which are no other than granulations developed in the wall of the vessel. In these cases there was generalised Tuberculosis. It is well to bring into prominence these phenomena of propagation, for hereby tubercles diverge from simple inflammatory products, and approximate to the malignant new growths.

It should here be remembered that tubercle is always *sui generis;* but that, according to circumstances, it offers anatomical varieties in relation to its tendencies of evolution. Thus at the two extremes of the series are found, on one side, tubercles ending rapidly in caseification, on the other tubercles of fibrous evolution; and the causes of these modifications should be sought in the tubercle itself, and not in the Pneumonia that oftens accompanies it.*

The lymphatic glands appear to be the peculiar seat of miliary tubercles, and this tendency affords a good aid in diagnosing the presence of the disease in the living animal. Such organs as the lungs and liver sometimes attain great dimensions by the tubercle infiltration, while their density is immensely increased. Mucous, in addition to the serous membranes, and the brain, uterus testicles, kidneys, ovaries, heart, mammæ, etc., are all liable to be infiltrated with these malignant formations. Tubercle may also invade bone and muscle.

As to the frequency of the disease in various tissues and organs, Adams found in 109 bovines the lungs and serous membranes chiefly involved; in 117 the lungs solely affected; and in twenty-eight the serous membranes alone. In all the tuberculous cattle there was more or less implication of the bronchial glands, which were greatly enlarged from the presence of tubercle; and in sixty animals the liver was infarcted with these formations, while in some instances a number of tubercles were found in the tongue and the udder. They have been found by others in the mucous membranes of the roof of the vagina, and their presence there, as well as in the udder and the glands at the upper of the

* The *Lancet.*

neck, has been considered useful from a diagnostic point of view.

Tuberculosis, then, is an infective disease, and appears to be almost peculiar, among the lower animals, to the bovine species—it is very rarely seen in the sheep and goat; it is, perhaps, even more rare in the horse; in the pig it has often been observed, and particularly as a termination of Scrofula, with which it is identified. In the carnivora it is very infrequent.

(To be continued.)

INFECTIOUS EPIZOÖTIC FEVER OF HORSES.

BY A. H. SANTY, F.R.C.V.S., NORWICH.

HAVING seen in the VETERINARY JOURNAL for April a discussion on the merits of counter-irritation in acute disease of the respiratory organs, following the very interesting paper read by Mr. Peter Taylor, of Manchester, I venture to send a few remarks on the disease which I term infectious Epizoötic Fever in horses, accompanied by congestion of the lungs, Pleurisy, or a disordered state of the liver. The symptoms are very severe in some cases, and there is great prostration in most. I find I have had fourteen of them during the past two months, and up to the present time I am happy to say I have not lost one. I will describe one of the worst cases; the others, it may be taken for granted, were the same, only some of the symptoms were modified, while in others they were exacerbated.

April 24th.—A grey carriage-mare, eight years old, in good condition, observed to fall off in her feed a day or two previously, and had a cough. When I saw her she was breathing quickly, about 32 in the minute; her pulse was 80 in the minute; temperature $105\frac{4}{5}^{\circ}$; a nasty yellow watery discharge from her nostrils; mucous membranes injected; anxious and desponding countenance; pendant head; great prostration; extremities warm; fæces scanty, rather hard and dark-coloured; respiratory murmur in left lung almost inaudible, in the right much increased; appetite fickle.

Diagnosis.—Infectious Epizoötic Fever.

Prognosis.—Doubtful.

Treatment.—Gave at once a diffusible stimulating draught, with a view to act on the kidneys, skin, etc., and rouse the vital powers. I applied sinapisms to the sides, gave warm water injections, had the body well clothed and legs bandaged, allowed plenty of fresh air without draught, left dose of simple fever medicine to be administered every six hours—either the nitrate or sulphate of potass. I generally give the sulphate, occasionally changing it for the nitrate; ordered a little grass, mangold wurzel, hay, bran, scalded oats.

25*th.*—Pulse 80; respirations 20; temperature 104⅘°; appetite a little improved; murmur right lung not so distinct. Treatment the same as yesterday, adding a pint of beer to the draught.

26*th.*—Pulse 72; respirations 40; temperature 103⅘°. Treatment the same; repeated the sinapism to the sides, allowed the mare to drink a pint of good beer, with a little water night and morning.

27*th.*—Pulse 60; respirations 40; temperature 102½°; appetite improving. Treatment the same; ordered some eggs to be given to her in beer.

28*th.*—Pulse 56; respirations 36; temperature 101°. Treatment the same; both lungs clearer.

29*th.*—Pulse 52; respirations 30. From this time to May 5th, when she was discharged, she gradually kept improving. I substituted vegetable tonics for the potass salts, allowed beer daily, gradually leaving it off. I think your readers will agree with me that the symptoms were sufficiently alarming. This is a fair sketch of the other cases, varying in severity, some showing more symptoms of Pleurisy. They were treated the same, with some slight variations, sometimes applying blankets wrung out of hot water to the sides. I am of opinion these cases cannot be treated in too simple a manner. It is useless trying to cut short the disease by attempting to reduce the heart's action; it will run its course. The animal begins perceptibly to improve from about the 7th or the 10th day, the temperature and pulse gradually lowering, appetite increasing, countenance more cheerful, holds up the head, etc. Some rapidly lose weight during the illness, but quickly regain their former condition. I may mention that I believe the thermometer is a sure guide as to

how the case is progressing ; in several cases, I have noticed the turning-point in the disease has been indicated by a fall of only one or two-fifths, and that long before the pulse or any other symptom indicated a favourable change. Support the animal's strength, keep the skin warm, give plenty of fresh air, and do not apply severe counter-irritants, especially cantharides. I believe in one or two applications of sinapis in the early stages, as I have frequently seen a good effect follow. In some, effusion takes place in the lung, the air-cells and small tubes becoming blocked for a time ; but that is absorbed again, for on auscultating when the patient is convalescent, the air may be heard passing through that part of the lung which had during the fever been impervious to air, or in which no sound could be detected. Perhaps these few remarks may induce others to give their experience in similar cases.

ON STITCHES OF RELAXATION.

BY J. H. COX, M.R.C.V.S., ARMY VETERINARY DEPARTMENT, 4TH MADRAS CAVALRY.

IT has often occurred to me, that the old system of dealing with wounds requiring the aid of sutures, was unsatisfactory. We are unable to place our patients in any fixed position, so as to command perfect quietude—hence, large incised wounds, especially in parts where motion is extensive, refuse to obey the dictates of science. Cicatrices or blemishes do not bear the same relative importance in horses as in human subjects ; but still it is the duty of all veterinary surgeons to aid nature as much as possible, in order to reduce the effects of large wounds to a minimum. Our reputation is often at stake in these matters, the results being severely criticised by the observant public. I therefore purpose placing before your readers a few remarks on "Stitches of Relaxation," introduced by Professor Lister, whose authority on these subjects is paramount.

He describes the method as follows :—"It consists of two oval pieces of sheet lead, about one-twentieth of an inch thick, with a central perforation to receive a moderately thick silver wire. The silver wire is first passed as an ordinary suture, except that

it is carried at an unusually great distance from the edge of the wound, both as regards surface and depth; each end of the wire is then passed through the hole in the corresponding lead button, and secured by being wound once round the shorter diameter. The two buttons thus take the place of the tips of two fingers of the two hands in giving support to the deeper parts of the wound, while leaving the cutaneous margins free; and when the wound is at all extensive, several pairs of buttons are applied in this way, constituting a sort of interrupted quilled suture. If it be necessary to relax the wire, this is readily done 'by unwinding the wire from one of the buttons, and after straightening it, allowing the button to slip upon it to any degree to which the tension disposes it, and then fixing it again by winding the wire round it.'"

Dr. J. C. O. Will, commenting on the above, states:—"The button which I now use is exactly similar in shape and size to Professor Lister's, but a little knobbed stem springs from each side of the central aperture, round which the wire is twisted in figure-of-eight fashion; thus the wire can be drawn well home, is kept in exact position, and can be relaxed at will, and reapplied with the greatest ease. If chromic catgut be employed in place of wire, a thread long enough to allow subsequent relaxation and retying should be used, the superfluous catgut being twisted round and round the little pins. The buttons are made of silver, and are therefore comparatively costly; but were any demand to arise for them, the makers (Jamieson and Son, Union Street, Aberdeen) would make them of plated material, by which their price would be rendered extremely trifling. Being pliable, the button can be bent so as to accommodate itself to any surface, while the material of which it is composed renders its thorough cleansing both easy and certain."

There remains very little for me to add, as the above extracts thoroughly describe this plan of manipulating wounds. In India, where distances are so immense, we are compelled in a great measure to become our own mechanics, and to extemporise instruments and appliances; whereas, in England, we could rely on the ingenuity of Messrs. Arnold and Sons. It requires no great amount of skill, however, to make these buttons, as a pocket

knife and fretwork file are all that is necessary. I have used the ones made of lead, but found them in some cases objectionable, on account of their weight. Although small, they have a greater tendency to gravitate, especially in wounds where there is no support from below, than if made of some lighter material.

The advantages promulgated by Professor Lister are fully borne out by my own experience. We know that even in clean-cut wounds of any size, there is often a large amount of tumefaction, producing great tension on the sutures, which, being unyielding, must necessarily cut through the skin and subjacent tissue. In the excision of tumours, and other operations where a large amount of skin is involved, this plan specially recommends itself, acting as it does, as a self-support; but its greatest feature consists, as its name implies, in our being able to relax the stitches at will—no matter what amount of tumefaction happens to arise, we can put on the desired pressure without in any way injuring the integument. There cannot be any doubt, that where the sutures are a fixture, a large amount of irritation, and consequent pain, are the concomitant results.

Silver or metallic wire is excellent material for sutures; but the chromic catgut suggested by Dr. Will is a good substitute, and for some reasons more desirable: it has a tendency to harden the tissues, thereby affording firmer hold; like wire, it is non-absorbent, or nearly so, and it is more easily managed. I have discontinued the use of silk and thread, as they become saturated with pus, which in this country soon decomposes, and might, under favourable circumstances, be taken up by the circulation.

The application of these buttons is a matter of easy moment. If possible, the upper one should be fixed first; when the bottom one is ready, the lips of the wound can be easily brought together by pressure of the thumb and index finger of the left hand, at the same time gently pulling the wire, or gut, as the case may be, with the right; when in position, the figure-of-eight can be readily accomplished. The studs on the lead, from their flexibility, are liable to warp when pressure is brought to bear upon them; this could be remedied if the buttons were made of plated silver, as suggested by Dr. Will.

A few words on dressings for wounds. Phenicated camphor, one part to ten of vegetable oil, holds a foremost place, containing antiseptic and healing properties, besides in a measure warding off the attacks of flies. Salicylic acid one part, *cum* glycerine four parts, incorporated by heat, and mixed with eight parts of water, is also a very good antiseptic dressing, destroying fœtor. As a rule, the *vis medicatrix naturæ*, combined with sanitary measures and sound hygienic treatment, will meet all requirements.

EPILEPSY.

BY CHARLES WHITWORTH, F.R.C.V.S., LONDON.

PERHAPS of all diseases implicating the nervous system, this is one of the most complex, as its pathology is involved in so much obscurity; hence the difficulty of defining it. It occurs in all animals, most frequently in pigs and dogs (in young life), and probably more frequently in the horse than is accepted. In the lower animals, as a rule, the premonitory symptoms may be insufficient to warn one of an approaching attack; which rule is generally reversed in the human subject, by the precursory symptom, viz., the "Epileptic Aura"—a very curious phenomenon, which is not usually recognisable in the lower animals. It may arise from irritation of various kinds, which can often be specifically ascertained to exist, viz., intestinal worms, constipation, mal-nutrition, or injuries to the head, etc.; but it may also occur from some inscrutable cause throughout the whole life of the animal. The epileptic fit may be severe or slight, and instead of the severe, well-marked symptoms, they may be reduced to a minimum, and although they have a tendency to recur, it does not necessarily follow that they will. However, this form of disease is ever variable.

Dr. Brown Sequard, in 1857, published some very interesting researches on Epilepsy. He found that certain injuries to the spinal cord produced symptoms analogous to those of Epilepsy.

Symptoms.—Suddenly the animal is noticed to stagger, stare, champ with its jaws, and foam at the mouth; the head is jerked upwards, and may be drawn round on one side; the muscles of

the trunk contract spasmodically, and the animal falls, struggling and unconscious; then he may heave two or three heavy sighs, and cease to struggle. Convulsions generally terminate before the insensibility is over. Dogs sometimes cry out, or they may be deaf and dumb.

The convulsive phenomena may speedily subside and the animal regain its feet, and if loose it is apt to run from any one near it.

The paroxysmal loss of consciousness is, however, the prominent or important element present in every instance, while not unfrequently it is the only one; there being no evident spasmodic movements of any kind.

The phenomena that succeed the paroxysm are also of great interest and moment: some animals quite recover themselves in a few minutes, others remain in a state of profound stupor; not unfrequently there is a degree of partial paralysis, which may soon pass off. Cataleptic symptoms are sometimes observable, as is also Strabismus.

No. 1.—I will now briefly record from my case-book a few cases of the kind, merely to show how variable they may be in the different lower animals. This very interesting case I saw in 1863, when a student at the Ecole Imperiale Veterinaire, Alfort, France, in which institution there was an epileptic subject, viz., a grey gelding dray-horse. He had had several fits, and during each paroxysm he was much injured by falling; the skin and muscles about the orbital arches, nasal bones, and almost every prominent part of the body, were lacerated and contused, which gave him a frightful appearance. On the 13th of July, I saw him about 11 a.m., when his appearance denoted another attack; pulse 52 per minute, trembling of muscles, respiration accelerated, feverish, head hot, eyes partially closed, and his appearance was dull and dejected; saliva flowing from the mouth, and hanging from both commissures. With this indication, the front of his loose-box, which constitutes a pair of folding-doors (opening in the centre space) was thrown open and well littered with straw ready to receive him, when a violent paroxysm came on—which was, in short, an exaggeration of the symptoms described—which lasted some few minutes. After the paroxysm, he was

made comfortable in his box, and at 2 p.m. I visited him, when he looked exceedingly dull, and stood as if unconscious of surrounding objects. At 5 p.m. I again saw him, when he appeared more conscious, had partaken of sloppy food, and drank water; now he lay down composed. He continued to improve up to the 17th instant, when a dose of physic was administered, and two setons passed, one on each side of the neck, superior to jugulars. In a few days from this the session terminated, consequently I saw no more of him; but I may add, that Professor Bouley regarded this case as incurable.

No. 2.—On the morning of the 18th of March, 1880, I was walking in Piccadilly, on my way to visit a patient, when I observed a crowd, in the midst of which was a grey cab-horse, which evidently had staggered in harness, from which he was quickly extricated, and had been bled from the roof of the mouth; from his wet appearance, I judge they had thrown cold water over his head. As I approached he was standing, but they had great difficulty in keeping him up, although there were men on each side of him, as he appeared hemiplegic and unconscious, foamed at the mouth, staggered, stared, and champed his jaws, with his head elevated and turned round to the right side; the muscles on this side appeared principally affected with clonic spasm, and were jerked about in a strange manner. When they tried to move him on, he commenced a small circle, and as they pressed him, he moved round; however, they rubbed his ears and applied friction to his body, when he gradually seemed to recover from the paroxysm, and moved on with the crowd.

No. 3.—In 1868, at the request of Dr. Brown, M.D., of Grantham, Lincolnshire, I examined a favourite fox-terrier bitch, by name "Nettle," which animal had suddenly foamed at the mouth, became convulsed, fell on her side, where she remained, with staring eyes, and champing her jaws; after a lapse of time she gradually became still, rose on her legs with some difficulty, looked stupidly about, and if any one (that she knew or otherwise) approached her, she would run away. If you made an attempt to touch her, she would snap, and might bite you; anyhow, she did not know her dearest friends, neither did she take cognisance of anything they said to her—rather tried to avoid them. The

doctor and his sisters had a consultation and sat in judgment on her ere my arrival, when she was sentenced to death, and further, the gun was taken from the beam for the execution to be done. When I arrived I assured them it was only an attack of Epilepsy, which might be ephemeral; certainly not a case of Rabies, which they anticipated. With this they consented that she should go to my infirmary for treatment, where she was immediately removed and put in a loose-box, when she showed the following cataleptic symptoms. She continued to lie where placed on the straw, with her head between her fore legs; eyes fixed; deaf and dumb. I called her by name, but no response; I blowed some peas through a tube with some force on to her head, which shots she did not recognise, not so much as winked. I then fired a pistol over her, with the same negative results; I also placed her in every absurd posture, which was retained until the paroxysm was at an end, which was in about half an hour.

Treatment.—Emetic, warm bath, and physic. After this no recurrence.

No. 4.—In 1869, at the request of James Hornsby, Esq., of Grantham, I was called in to examine a bay pony, by name "Little Wonder." He was suddenly seized in his stall, breaking everything that secured him, and fell completely over, where he would lie comparatively still, yet unconscious; when in a few minutes he would rally, get on his legs, afterwards resume his place in his stall. Here the paroxysmal loss of consciousness was manifest, but beyond the animal lying prostrate *pro tem.*, very little else was noticeable. However, after treatment there was no recurrence.

No. 5.—Pigs are generally kept on the sow from eight to twelve weeks; about this period of lactation it is no uncommon occurrence to see several of a litter affected with epileptic fits, and often occurring synchronously. They suddenly begin to champ and foam at the mouth, the head seems to be drawn up, or on one side, by contraction of the muscles, when they fall back or over, heave a sigh or two, get on their legs, look a little surprised, then, perhaps, go to the trough and drink.

Treatment.—Emetic and physic. If it recurs, a stimulating liniment to the upper cervical region; afterwards cold-water douche.

THE CELEBRATED BREED OF BELOOCH MARES.

BY J. J. MEYRICK, M.R.C.V.S., ROYAL ARTILLERY, PUNJAB.

[The following description of a very celebrated breed of Asiatic horses will be read with interest by horsemen. This breed is located in the Dera Ghazi Khan district, on the western side of the river Indus, and the officers of the Punjab Frontier Force consider it to be superior to all others for furnishing native cavalry troopers. A large part of the district is little better than a desert, and the hardiness of the breed may be due, to some extent at least, to this fact; as before the Beloochis passed under British rule, they lived, like Arabs, upon the produce of their herds and plunder, and to obtain the latter they had to make raids into distant regions. In a private letter, Mr. Meyrick informs us that during last December he was marching about their district and inspected 1,200 of their mares, more than 700 of which he passed and branded as fit to be put to Government stallions. Before leaving their country, the Belooch chiefs went to Mr. Meyrick in a body, and promised him that if he would return in the month of March they would bring forward so many additional mares, that the total branded should amount to at least 1,000. This most valuable source of supply should be encouraged in every way, and no more competent officer than our colleague could be found to carry out this object.]

THE Belooch breed of horses is one of the most celebrated in India for speed and endurance. The Beloochis themselves are said to be descended from Arabs, who settled in Beloochistan during the reign of the Persian king, Naushirvan. Their horses are thought by some to have been brought with them; but if so, they have greatly altered in shape, which is totally different to that of the Arab. Their most common characteristics are: rather long ears, with a slight twist at the points, lean heads, with a trifling forward curve from the forehead to the upper part of the nasal bones; good shoulders; very deep and moderately broad chests; and angular drooping quarters, very broad across the hips.

Until within the last few years all colts, except those kept for stallion purposes, were killed and eaten shortly after being foaled; but they are now reared, and sold at an early age to native horse-dealers. The best-shaped mares, of pure breed, average about 14-1½ hands in height, being seldom more than 14-3, or less than 14 hands. One, which I saw win a three-mile race, against about fifty competitors of all sizes, was only 14 hands and a ½ inch high. She had very deep oblique shoulders, loins so muscular as to appear arched, and very long arms and thighs.

Belooch mares, owing to their being allowed to run at large when growing, have much better legs and hocks than the majority of Indian horses, and are remarkably sound. They have tough hoofs, and are never shod except when on long marches through the mountains of the Western Punjab. Their most common defect is a want of sufficient barrel; but this often appears greater than it really is, owing to the contrast with an extremely deep chest. When young, the fillies receive large quantities of camel's or sometimes buffalo's milk, in addition to that of the mother. After being weaned they are fed daily, up to the age of two years, by all who can afford it, with a mixture of butter, flour, and coarse brown sugar, besides grain and other food. From two till four years a bullock's head is given to each filly once a week, the flesh being boiled, beaten into shreds, and mixed with flour and sugar. The bones also are broken to pieces and stewed, until a very thick soup is obtained. This is made into a paste with sugar, and given in lumps by hand. When full-grown, each mare receives daily from 4 to 8 lbs. of either barley or "jowar" (a kind of millet.) For many months in the year, when most of the grass in the country is dried up, they are fed with the stalks of "jowar," and also with green wheat for six or eight weeks after it has grown sufficiently high to be readily cut.

On a long journey, they are usually ridden at an amble—that is, with fore and hind legs on the same side moving nearly together. They will travel six miles an hour at this pace for forty miles, with ease. From what I have both seen and heard, I am certain that the majority of mares in good condition can do eighty miles in the same manner, and without much distress; but it murt be borne in mind that the rider, with his saddle and accoutrements, does not usually weigh more than eleven stone. Many mares are owned in shares by three or four men, and cannot be sold without the consent of all. The breed, if crossed with large-framed Arabs, would produce Light Cavalry remounts that could not be surpassed for hardiness and endurance.

Although a race of horsemen, the Beloochis almost invariably fight on foot—dismounting and leaving their mares to be held by a few men, while the remainder make the attack. They

seldom use firearms, their favourite weapons being "tulwars" (short curved swords) and round shields, ten or twelve inches in diameter. They are very fond of racing, and do not care to run the mares less than two miles. Most of the courses are at least three miles long. They generally ride races bare-backed, and in this form many of them have very fine seats; but in their saddles they are bad riders, clinging to the pommel with one hand when a mare rears or plunges. This is not surprising, considering the shape of the saddle, which is the same that is generally used throughout the Punjab. The seat is very short from front to rear, the pommel rises into a high narrow perpendicular peak in front of the rider's stomach, and the sides of the tree project at such an angle that it is difficult for a man to close his knees without hurting his thighs. The bit is a thin snaffle, jointed in the centre, and covered with short spikes, which are made sharp or blunt according to the degree in which a mare is inclined to pull. It does not seem so injurious as the bit used by Mahomedans in other parts of the Punjab, which is a light curb, jointed at each end of the port. The mouthpiece is covered with spikes or sharp ridges, and there is often a spike on the top of the port. Horses ridden with this bit are often seen bleeding from the mouth, and go much more on their haunches than Belooch mares. It is, no doubt, partly owing to this that their hocks are often unsound and very "sickle-shaped."

BURSATI.

BY GEORGE A. OLIPHANT, F.R.C.V.S., ROYAL ARTILLERY, HAPUR, INDIA.

BURSATI, only too well-known to horse-owners in India, is a disease of an ulcerative type, affecting the skin of the horse; but not, as is generally supposed, limited in its effects to the integument. The name implies that the affection is one peculiar to the season of the rains; but this is not correct, as it generally makes its appearance in the early part of the hot season, March and April—the sore becoming more unhealthy, as all sores are apt to do, in the rains.

The parts attacked are mostly those farthest from the centre of circulation, as the face, extremities, and notably the glans penis, near the opening of the urethra, and the angles of the mouth. Any part of the body subject to friction, or easily rubbed or bitten by the animal itself, is liable to be affected. It is very generally believed that ordinary sores may degenerate, from careless treatment, into sores of the Bursati type; but my own experience leads me to doubt that this happens, although undoubtedly in this affection, as in many other constitutional derangements, there is a tendency in newly-formed, or lowly-organised structures, as scars, to degenerate; and in wounds to become affected by the taint of the system, and to be turned by nature into emunctories, as it were, through which the discharge of the injurious matter is sought. In very many cases, however, the scars are cicatrices of former Bursati sores, and the sores are of the Bursati type from the commencement. However, be this as it may, as I will presently show, Bursati has a specific cause, and without this element being present, no particular mode of treatment, or neglect of treatment, will produce the disease.

The exciting cause of the ulcer is the presence in the substance of the skin of the so-called "kunkur," and the ulceration is an effort of nature to get rid of this element; and if the deposit was confined to the skin, that effort would probably oftener be successful, resulting in restoration of the animal to health. Unfortunately, the internal organs are sooner or later affected. The lungs, liver, spleen, etc., become thickly studded with this matter, and the important functions carried on by them being interfered with, rapidly increasing debility, and ultimately death takes place. On the exact nature of this matter—"kunkur"—a clear definition of the nature of the disease depends. To the eye it is very like tubercle, occurs in more or less nodular masses of various dimensions, from the size of a millet-seed to that of a small bean, or even larger. It appears to consist of animal matter, containing deposits of salts; when fresh it cuts like cartilage, and when dried is distinctly gritty. In all these points it is very like tubercle, but I have failed so far to trace in it one peculiarity of that diseased product—softening.

I cannot do better than trace a Bursati sore from the commencement; but may premise that such an opportunity rarely offers, the sore being generally met with in one or other of the more advanced stages. First, then, death of a circumscribed portion of skin, more or less circular, takes place, which, separating round its edges in the ordinary way that dead tissue is cast off from the living body, speedily becomes entirely detached, leaving a soft, dark-looking sore, from which fluid freely and constantly flows, this flow of fluid or serum being very markedly characteristic of the disease in its most active form. More frequently, however, from rubbing or biting—for the sore is particularly itchy—the crown of the ulcer becomes violently detached, leaving a moist, irritable sore, the base of which speedily becomes indurated, the skin much thickened; and now on close examination the real cause of the mischief will be apparent. A discharge of pus from minute orifices on the surface will be observed, and, if these be enlarged, or even if gentle squeezing be had recourse to, the tubercle-like matter may be removed in portions varying in size, nodulated on the surface, and by no means unlike minute nodules of "kunkur," from which resemblance the natives have undoubtedly given it the name. On the removal of these, or on their natural ejection by the process of ulceration, ragged ulcerous cavities are left, which are speedily filled up by rank granulations or fungoid growths. These granulations condense, and become harder and of a dirty brown colour. Cracks or fissures appear in the structure, through which the aqueous discharge is freely poured. Other similar ulcers form around the original sore, or in its neighbourhood, and from being bitten or rubbed by the animal, the connecting skin is abraded and takes an unhealthy action, until a huge sore is established: the skin becoming extensively thickened and hardened, tumefaction resulting from effusion of serum into the areolar tissue under it.

This last condition especially results in cases where the disease affects the legs, more particularly the hind ones. On the face, frequently a number of small ulcers are formed in the thin skin of that part, and the tubercle-like matter, in very small particles, may be felt in the skin by manipulation.

Friction, owing to the irritation, here comes into play, and there

is soon a vast surface denuded of hair, with one large or several confluent ulcers.

The unfortunate affected animal leads a miserable existence, from the irritability and itchiness of the sores; and although well fed, will, from this cause, and in the later stages also probably from internal disease, rapidly fall into an extremely debilitated condition.

It has been said that the sore spreads by the contact of the discharge with the healthy skin; but I have failed to get proof of this, and have often seen the sores spread in an upward direction.

The origin of the ulceration is always the presence in the integument of the "kunkur."

High temperature appears to be necessary to the development of the disease, and moisture, in combination with it, aggravates it. For the ulcer to heal it is necessary for the "kunkur" to be eliminated, and when such does take place, the thickening of the skin subsides, and a peculiar cicatrix or scar is formed, very characteristic of the disease. Invariably white or colourless, it is seamed in exactly the same manner as the scars of a burn on the human skin. Even should this favourable result not take place, arrestation of the disease occurs in the cold weather; the surface of the sore dries up, but no proper cicatrisation takes place, and the surrounding skin or base of the sore remains indurated. Such imperfectly healed Bursati sores are very frequently seen on the sides of the fetlocks, varying in size from a pigeon's egg to that of a hen's, or larger, and they invariably break out again in the beginning of the hot season. On *post-mortem* examination being made of a subject dead from, or, as more generally happens, destroyed for Bursati, the tubercle-like matter will be found frequently thickly studding the substance of the lungs, liver, and spleen, and probably other internal organs and structures; but in no case have I ever seen any attempt at discharge, by ulceration or softening, from any of these organs. Nevertheless, I think it probable that in advanced cases of the disease such a process does take place. On dissecting out a sore from the skin, and making sections of it, there will be observed at the surface the fungoid granulations resting on a semi-cartilaginous-like base—the altered skin, with numerous small cavities or cells, containing small or

large portions of the already described tubercle-like matter or "kunkur"; the areolar tissue under the affected skin being infiltrated with yellow serum, but no extension of the disease to neighbouring structures invested by the diseased integument.

As to treatment, I fear that I can say very little that is satisfactory.

Small sores, having ejected all the "kunkur" in their substance, will frequently heal, leaving the skin thin and flexible, nothing being noticeable beyond the peculiar scar I have already described; but the animal remains subject to recurrent attacks in successive seasons. I have, however, seen many cases that have healed in this way remain free from fresh attack for several years afterwards; but in all probability the disease reappeared later in the animal's life, when such exciting agencies as old age, debility, etc., came into play.

Locally, poultices may be tried to assist in the discharge of the "kunkur," but the effect must be carefully watched, or profuse granulation may arise, which will require caustic treatment. The "kunkur" must always be removed when it approaches the surface, and the sore kept clean and dry. Dressings of carbolic acid and oil, and more especially of the preparation known as phenicated camphor diluted with oil, will be found useful, as also will a solution of hydrate of chloral to relieve itchiness. Carbonate of magnesia dusted over the sore dries up the discharge, and further protection may be given by fine cotton wool, which will often adhere of itself when lightly pressed on, or may be made to do so by a prior application of Venice turpentine.

When it is found necessary to wash the sore, a dilute solution of carbolic acid should be used. In all cases the horse must be so secured by head and heel-ropes, as to prevent damage to the sore by biting, rubbing it, etc.

Excision of small sores might meet with success; but I have never tried it, and doubt its general efficacy—the state of system existing in Bursati is not one that indicates use of the knife.

Constitutional remedies should on no account be neglected, the animal receiving a generous grain diet, with also some fatty matters, as linseed oil, cod liver oil, or ghee, and hydrochloric acid, with the tincture of steel and some vegetable bitter, as chiretta.

I have tried very many internal remedies and local applications, but am bound to say that, except in cases of young, strong animals, and in primary attacks, when treatment is often successful, I have found the affection one not amenable to treatment. Once the disease is thoroughly established, and bad sores are present, especially about the extremities, the best and most merciful practice is to destroy the animal.

Editorial.

THE PRACTICAL TRAINING OF VETERINARY STUDENTS.

FROM every side come more or less serious complaints as to the defective training of many recently-graduated veterinary surgeons, in those practical details of their calling which go such a long way to rendering them competent to perform their duties satisfactorily to the public and with credit to their profession. These complaints are probably not of recent date, but were coeval with the introduction of veterinary science into this country. From that time up to the present, it appears that a practical training of the veterinary student could not be ensured; and though very many members of the profession have received such training before they entered the schools, others have not. Indeed, it is a fact that many candidates for admission to these schools knew nothing whatever with regard to handling or controlling the domestic animals, or their nature or habits before they became students. And from the constitution of the schools, it was not necessary that any inquiry should be made in this direction; neither does it appear to have been recognised by them that a student should have a sufficient knowledge of the practical portion of his work. Anybody gained admission to their benches; physical and mental qualifications were of little moment. The utterly uneducated, as well as the utterly unfit from a physical or moral point of view, were alike admitted with those who possessed all the requisites for becoming excellent practitioners. It was forgotten that the veterinary surgeon, like the poet, is born, not made. So long as the benches could be filled, no question was asked as to the material which filled them; and apart from the dependence of the teachers' salary upon the number of students, the success of teaching and the advancement of veterinary medicine were supposed to be directly related to the muster roll of the schools. Nothing could be more fallacious. Scores of men who had failed in everything else they attempted have joined the schools as a last resource; and without any acquaintance whatever with the most essential requirements of a practitioner, have attended the classes, where they never administered a dose of medicine, performed, or even saw performed all, if any, of the many operations which a veterinary surgeon may have to undertake; witnessed but few cases of disease or lameness; were not instructed in conformation or the defects of horses; could not

venture to handle a horse, cow, sheep, dog, or pig—in fact, with the exception of cramming from lectures and books, were utterly incapable of practising the veterinary art, or comprehending the application of veterinary science. What the schools required, and do require, to maintain their existence is quantity, not quality; and this is not to be wondered at. But must the Royal College of Veterinary Surgeons share the odium, or rather bear the whole blame for this state of affairs? The schools are not responsible for the welfare of the profession, but the body corporate is, and upon it the blame is heaped. When the period of study was lengthened, it was hoped that practical instruction would go hand-in-hand with scientific tuition, and that the chronic complaint as to the ignorance of young veterinary surgeons in manipulative details, and the practical part of their duties, would be no longer heard.

But this is not the case. The amount of theoretical knowledge has perhaps been increased—nothing more. "Cram" is intensified, it may be; but as for practical knowledge, it is confessed everywhere that there is no improvement. The newly-fledged graduate who ventures at once into practice, only too often causes veterinary science to smell in the nose of the non-scientific, but observant owner of animals, while he excites the mirth of the groom, cowherd, or shepherd by his stupid blunders, and brings his vocation into contempt,—soon resigning his functions to the untutored, illiterate, and unscrupulous quack, who at least knows something of simple operations and the management of sick animals.

This most unsatisfactory state of affairs should not be allowed to continue. Science without practice is simply death to the veterinary profession, as is also practice without science—the one cannot exist without the other now. The days of the so-called "practical man" have gone by, never to return; he was only a transitionary stage between the ordinary farrier and the modern veterinary surgeon, though he possessed more of the character of the former than the latter. The veterinarian must now be an educated scientific man, who knows how to utilise his education and science for the benefit of society; so that what the public require is not the "practical men" we have been accustomed to, and who were neither educated nor scientific, but "intelligent practitioners." There is no guarantee that the schools can supply these, inasmuch as they have not the facilities for imparting practical knowledge, nor the means or time for teaching those manipulative details so essential in every-day routine. The only remedy possible must be adopted by the licensing body, and that is the enforcement of a period of pupilage with members of the profession, with whom the candidates for the diploma will have acquired that knowledge, the absence of which is now inflicting grievous injury upon veterinary science in this country. General, scientific, and practical knowledge is absolutely necessary for the successful pursuit of our calling, and that the candidates for its diploma really possess this must be insisted upon and certified to by the Royal College of Veterinary Surgeons. Upon it rests this responsibility, solely and wholly, and it cannot shirk its chief duty, and the one for the faithful execution of which it was mainly constituted.

GLANDERS AND FARCY.*

BY ALFRED BROAD, M.R.C.V.S., LONDON.

I REGRET that I cannot head my remarks with a suitable and acknowledged name for this malady, though Farcy and Glanders have for many years been recognised as identical; for as far back as 1827, Gerard wrote a thesis entirely in defence of this fact, which had also been previously asserted in England by Snape. Practice and research early convince one of the correctness of this view, which is also further supported by the writings of Messrs. Fleming and Williams on this subject. I will, however, say no more concerning its nosology until I have considered the nature and pathological changes of the malady, merely premising that I treat of the disease as a whole, endeavouring to keep the appellations "Glanders and Farcy" for the subordinate purpose of indicating forms of symptoms. It may be defined as: A contagious disease due to the unhealthy influence, within the system, of a specific organised virus, which becomes deposited in the lungs, producing pathognomonic changes in those organs, in the lymphatic vessels and glands, and in the mucous membrane of the respiratory passages.

As in many specific maladies, the virus or disease producing agent appears to be a cell, in this case not greatly differing from those of pus; and its natural, most constant, and prior tendency is to the lung tissue where, from the manner of its deposition and growth, it may justly give the title of Tubercular to the affection. Its most common form of presence is the miliary tubercle, the first stage of which is a small vascular spot, often seen in numbers throughout the parenchyma and on the surface of the lungs. I was confirmed in my opinion that these points of congestion were initial forms of tubercles, by reading a summary of Professor Reynal's researches in Mr. Fleming's "Manual of Veterinary Sanitary Science and Police," and I have since noticed the same fact mentioned by Percivall in his quotations from Leblanc's work. In addition to the miliary, larger tuberculous growths are formed in the lungs, as well as circumscribed areas of granular infiltration; there are also found the various forms of alteration of structure, or degeneration of tubercle, as the caseous, calcareous, and purulent, the latter inducing vomicæ of all sizes. I have also here brought before you a specimen of a growth I have only once met with; it was taken from the tuberculous lung of a horse affected with Farcy, and appears to be of a fatty nature; the largest of the masses is about the size of a small hen's egg.

When a miliary tubercle is bisected, the contents, if caseous or purulent, can be pressed out, exposing a smooth cavity with shining walls, formed of a pearly-grey exudate. In a case of tubercular activity this appearance is hidden by the extent of inflammation round the tubercles, and in such a case the centre of the formation is usually purulent. All the pathological changes are traceable to the presence of this morbid element in its varying rates of growth and destructive influence. In many cases it will, quickly after its reception within the body, produce structural disease in the nasal membrane, or in the lymphatics in other parts; while in others, after its deposition in the lungs, it will remain quiescent for an indefinite time until some unhealthy influence rouses it into activity, or the system is brought into a condition favourable to its development. This circumstance affords an explanation of the curious fact witnessed in stables where the disease has much prevailed, that if a horse is laid up with any ailment, be it a cold, or an injured leg, Glanders or Farcy will most probably supervene.

In some instances no local or external symptoms follow the invasion of the malady, but general febrile disturbance is evinced, with manifestation of

* Read before the Central Veterinary Medical Association, on June 3rd.

chest irritation or disease ; and, these disappearing, the tubercles remain inactive, undergoing caseous or calcareous metamorphosis. It is not very uncommon to find these deposits in the lungs of horses which have died with complaints of such a nature that they could not have implicated these organs ; in that case the tubercles are quiescent, and have no zone of inflammation around them.

I look upon the appearance of the morbific matter in the lungs as the prior occurrence in an invasion of the disease ; I have certainly found it to be the only constant feature, for in no form of outbreak, however sudden, acute, or mild, have I failed to find it. Any one or all of the other pathological changes may be wanting, but not so the lung mischief. Much tubercular destruction of the respiratory organs is often found associated with little or no external manifestation ; but in an ordinary case showing Glanders symptoms, a perfectly healthy state of lungs is never seen, and the same may be said of any undoubted cases of Farcy. My experience does not enable me to speak so positively as to the condition of the lungs in a case of the disease produced by immediate experimental inoculation ; but I doubt not that signs of the deposition in the lung would be found co-existent with, if not prior to, diseased action elsewhere ; as all facts have induced me to believe that when the contagion is introduced within the blood or taken up by the absorbents, it is carried to the lungs before manifesting its presence in the head or elsewhere. All specific poisons, inorganic and organised, have their specially favoured seats within the body, and on the passage of the tainted blood through the pulmonary capillaries the virus of the disease might be immediately there eliminated ; this could happen in a few seconds after inoculation in any part. I have been told by veterinarians that they have on one or more occasions failed to find any disease in the lungs when specific symptoms had been well marked in the head ; but my experience leads me confidently to believe that a more careful or complete investigation would have disclosed tubercular disease in some form. I can recall instances in which, when the lungs were removed from the body, I have at first been unable to perceive either by sight or touch any form of disease of a specific nature ; yet on cutting out sections, cleansing, and closely examining them, I have found tubercles, though it may have been only a few. This has been the case when the nasal discharge and ulceration have been severe. Another condition of the pulmonary organs calculated to mislead those who expect to find all affected lungs shewing, to touch or sight, the familiar characters, is when no distinct tubercles are found, but merely at one part of the lung, it may be the posterior margin, there is a portion of the tissue, an inch or two in diameter, of irregular outline, thickened and hardened by tubercular or granular infiltration. On section this mass presents a yellowish-grey character of the specific deposit, with purulent degeneration at one or more points. In addition to this older effect of the virus, I have also found the vascular points before mentioned scattered broadcast through the lungs. In many instances the inflammation or congestion is sufficient to mask these latter indications ; this I have found occur in such lungs as I have taken for the first of the two examples just noted ; and in that case also the density of tissue occasioned by the inflammation serves to explain why the tubercles could not be felt externally, coupled with the fact that they were recent formations, and therefore had not acquired the customary hardness.

I cannot say that it appears improbable that we might in some rapidly developed case find nothing in the lungs except the congestive spots ; but I can positively affirm that among the many I have examined, I have never witnessed such a condition.

Some are inclined to maintain that in an inoculated specimen of the disease, with the symptoms affecting the head, and rapidly produced, nothing

abnormal might be found in the lungs; but I am of a totally different opinion, though I have examined, *post-mortem*, horses acutely affected, and which have, three days before, appeared perfectly healthy. I agree with the opinion of the French veterinarians, Phillippe and Bouley, as quoted in Professor Williams' "Veterinary Medicine," who state their conviction, as the result of repeated examinations, that the primary lesions are always in the viscera, the appearances in the nasal membrane or sinuses being secondary. Could experimental inoculation be undertaken on a sufficiently large scale, it would solve any doubts as to the prior implication of the pleural viscera in all cases; it would also determine another point of interest, which is, whether any or what proportion of cases, while seemingly resisting infection from the virus introduced, yet harboured it in the lung tissue.

The conditions in which the lungs are often found upon *post-mortem* examination, are numerous, according to the age and progress of the tubercular disease.

1. The most common form is that in which they are uniformly studded with miliary tubercles, detectable on pressing the fingers over the surface when they resemble peas or small shot imbedded in the tissue. They frequently cause visible elevations on the lung, or they there appear as pearly spots immediately beneath the pleura; at times inflammation is general in the parenchyma, or it may be localised around the tubercles.

2. In other cases the lungs are found in an advanced stage of inflammation, and have large irregular masses of caseous deposition scattered through their structure. Occasionally these formations are smaller and rounded.

3. Another condition is that of the pallid lung with nodules and bands of grey plastic exudation in its substance, some of which are visible on the surface. In the centre of many of the nodules purulent formations have taken place; while in such a state of lung-tubercles will probably be found which have undergone calcareous degeneration.

4. A condition of these viscera, not so frequently met with, is that in which the only sign of the disease is the presence of a few masses of tubercular infiltration, generally about the size of walnuts. On section they present a variegated marbled surface—yellowish and grey, with sometimes one or two centres of purulent softening.

Occasionally the lungs seem completely destroyed as organs of respiration; so much of the parenchyma as is left entire, is of a dark hue, from the degree of inflammation; while large caseous masses, putrid tuberculization, and purulent destruction are found in almost every portion of the pulmonary tissue.

Besides these typical or illustrative conditions, many others are to be found as varieties or combinations of the above-described, or as when the diseased action appears concentrated and involved in one or two large abscesses, or in a large portion of the lung which has undergone tubercular infiltration. In some lungs almost every form and stage of granular disease will exist, or in others but a very few tubercles are to be found. The congestive spots will be seen indiscriminately in many conditions of the organ. Very often they are present when there has been specific lung-disease of long standing, and external symptoms have suddenly supervened, or when there has occurred a rapid increase in the severity of a case of Chronic Glanders. It does not necessarily follow that when the disease has been active in the head, we shall find slight changes in the lungs, or *vice versâ;* yet I have often found these relations exemplified.

The acuteness or rapidity of manifestation of outward symptoms is often proportionate to the amount of inflammation excited around the tubercles, or at the points of their formation. Thus, in the most sudden and acute case of Glanders I remember, the tubercular depositions were the centres of most

intense inflammation, appearing here and there on the surface of the lungs as black prominent nodules, as large as marbles, while the intervening pulmonary tissue was of normal paleness. Tubercles are now and then discovered on the surface of the spleen or liver, resembling exactly the miliary tubercles in the lungs. I am particular to mention this resemblance, lest it should be supposed I allude to the fibrous formations often met with on the capsules of those viscera, having observed that some writers state this is the nature of supposed tubercles on the liver. I have, however, brought a specimen for your examination. Other changes produced by the disease are the inflammation and ulceration of the mucous membrane of the nasal passages and sinuses of the head, as well as of the larynx and trachea. Ulceration also extends to the septum nasi and turbinated bones. We find, likewise, morbid phenomena in many lymphatic glands, in absorbent vessels, and in isolated tumours in the skin and connective tissue.

The appearance of the septum nasi varies from a yellowish discolouration and infiltration of membrane to a violent ulceration of its whole surface; the ragged deeply eroded cartilage being visible, dark in colour, and purulent. The ulceration is generally in isolated chancrous patches, or there may be a string of worm-eaten-like cavities. I have found the ulcerated spots filled with protruding granulations, and often stellate or pluckered cicatrices are to be seen both on the upper and lower parts of the septum. Ulceration is very often confined to the upper portion of the cartilage, so that no view of it can be obtained during the animal's life. Another form of its appearance is that in which merely the surface of the membrane seems eaten away. The erosions in the nasal passage are not confined to the septum nasi, but occur also on the outer wall and floor of the cavity; though the membrane in these situations never suffers so severely as the more delicate covering of the septum. The epiglottis is often extensively diseased, the ulceration exposing, and even excavating, the cartilage. The mucous membrane, too, lining the larynx and trachea is very prone to ulcerative ravages, especially in cases of long standing. In the latter situation the membrane only is often affected, being destroyed in circular patches half an inch or more in diameter, leaving the white denuded cartilage plainly visible. This condition I have found in horses with chronic disease that have been at work almost to the day of their slaughter. Occasionally the cartilaginous rings suffer severely.

The submaxillary gland or glands will be found in most instances to be enlarged and of firm consistence. I have found them inflamed, and containing granular deposit in various forms.

The changes in the lymphatic vessels and in the skin which are met with in Farcy cases I have not closely examined, but find them admirably described in "Veterinary Sanitary Science and Police," by Mr. Fleming.

Its Name.

The epithets "Farcy and Glanders" are applied to trains of symptoms which are acknowledged to belong to one morbid diathesis, and to this condition or malady it is time that a suitable name should be given, which—as the disease itself does the symptoms—should embrace and overshadow these appellations, even if it did not entirely supplant them, which perhaps is not to be expected, or is not even desirable.

It has long been recognised that Farcy and Glanders are not separate diseases, and those best acquainted with the subject now know that they are one. Their relation is best described by saying they are both merely symptoms of one disease, and produced by the virus exerting its effects in parts of differing structure and position—in one case mucous membrane, in the other skin and lymphatics. If this affection possessed a name which was

suitable and universally recognised, much misconception would be avoided, and the way cleared for a correct knowledge of its nature and pathology.

Were there any fundamental differences between the states of system giving rise to Farcy symptoms and to those of Glanders, there would exist no reason for more closely merging them under one heading; but such is not the case. It is said "Farcy is a milder affection than Glanders." It is true that we have mild localised Farcy outbreaks, but we also have mild and tractable attacks of Glanders; and I have frequently seen cases of the latter less severe than others of Farcy; also I have found the lungs of horses, which had shewn only Farcy symptoms, in a far more diseased state than in many cases of Glanders.

It is also urged, as a distinctive difference, that "Farcy is more curable than Glanders." That it is frequently so, we must all admit; but I may reply, as before, that I have often met with cases of Glanders which yielded more readily to treatment than some attacks of Farcy symptoms. It should likewise be borne in mind that with the latter the morbid appearances are earlier recognised, the parts affected are less delicate, and local remedies can be applied with far greater ease and certainty—potent reasons for many outbreaks of Farcy being easy to subdue. Again, I believe that a great part of the character which Farcy has for easier curability is due to the fact that other simpler complaints are mistaken for it.

These several reasons account for the comparative leniency with which Farcy is viewed; but this should not be, seeing that the symptoms, so called, depend upon the same conditions as do those which receive the name of Glanders, and are capable of reducing the subject of them to a condition fully as loathsome as can the latter.

One reason for correctly naming the malady, is that it not infrequently occurs without any of the symptoms known as those of Glanders or Farcy; and yet from the state of the lungs and general symptoms, aided perhaps by the history and surroundings of the case, it can be diagnosed. We should, then, no longer need to make use of such strange terms as "internal Glanders" or "pulmonary Glanders," which might as reasonably be written "internal" or "pulmonary Farcy"—Farcy and Glanders being names suitable only, and applied to different outward appearances of the same morbid condition.

Were the true relation of Farcy and Glanders to each other, and to their originating malady, recognised by a name being given to this latter, it would be much easier to explain their connection in courts of law, where I have witnessed most distressing ignorance exhibited. The same would apply to our explanations to owners of horses, and even Privy Council orders might evince a more accurate acquaintance with the nature of the malady. It was some considerable time before Farcy was coupled with Glanders as a disease to be dealt with under the Contagious Diseases (Animals) Act, and they are still returned as separate affections. It appears to me desirable and proper that a scientific society like ours should take upon itself to suggest, or determine, a name for the disease which should agree with a correct view of its nature and meet with general approval.

Some will perhaps say "we do not require a name, Farcy and Glanders answer our purpose," if so they are easily satisfied; is it probable that those names would have been applied as they are, and solely retained, if the disease had been understood as it now is? Or could we find a parallel in our own or in human nosology to this state of things? I think not.

There are certain points to be considered which restrict our choice of a name; it must be sufficiently euphonious, applicable to, and if possible explanatory of, the disease, or a principal feature of it, and withal not too difficult of comprehension for many ordinary uses, as for example, in law

courts, in describing a case to the more educated among our clients, or in legal forms.

The name "Equina," or "Equinia," has been used by writers on human medicine, and partially applied by Professors Williams and Gamgee; and from the "human" point of view, it may be sensible, in the absence of another cognomen, to shew that the disease is one derived from the horse, or is "horsey," which is its sole signification; but such a name should not satisfy veterinary pathologists. Seeing that the lungs are the most vital part implicated, and that there is every reason to believe them to be the earliest seat of the disease, it would be correct to embody this fact by the prefix "Pneumo," (from the Greek πνευμων—the lungs), or the adjective "Pulmonary" from the Latin. The Greek verb φθειρω, signifies to destroy, or spoil, from which we could construct the name "Pneumophtheiria" or "Pneumophthisis"—an abbreviation of this latter would give Phthisis, an undesirable appellation by itself, as it would imply identity with the human malady, and this does not exist, though the similarity in many points is great.

I have seen many cases which have suggested to me the name "Tubercular Pneumonia," but occurrences of the disease are common in which no marked symptoms of pulmonary inflammation are shewn. I have considered whether a name could not be derived from the circumstance of the *materies morbi* being hidden or concealed in the lungs, but I found the Greek or Latin words for such meanings difficult to handle euphoniously.

The perhaps never-absent implication of the lymphatic vessels and their contents might afford a pretext for a name, or in default of a better we might fall back on one simply signifying "The Horse Disease," or "The Horse Injury or Ruin," such names would be "Hipponosis," "Equimorbus," "Hippolumia."

Tubercle of the Lungs might be thought suitable, either for a name or for a second appellation; or the names "Granulosis," "Granulitis," or "Lymphogranulosis" might be preferred, seeing that the word "tubercle," in a strict pathological sense, is considered inapplicable.

Symptoms.

Great variety in the kind and severity of the symptoms is presented in this affection, due to the manner in which the virus produces its effects, and the seat chosen for their manifestation. It may remain in the lungs, working destruction, or, finding its way into the circulation from them, or as a continuation of the inoculative process, it may be carried to its favoured site—the respiratory mucous membrane, and there cause the well-known symptoms; or, becoming deposited in other parts of the body, it may in isolated regions of the skin cause local disturbance, or being so deposited and taken up by the absorbents, may in those vessels excite characteristic appearances of disease. All these effects taking place at a slow or rapid rate according to various conditions, as the predisposition of the subject, its state of health or condition of living, quantity and perhaps quality or activity of the contagium.

In considering the symptoms, several questions arise: first, as to the predominance of the internal or external manifestations. This may, I think, be determined by the relative distribution, or greater or less amount of dispersion, of the virus in the circulation. The first of these reasons may help to account for the fact of one horse showing Farcy symptoms, while another will suffer from those of Glanders from the same cause; though difference in constitution, predisposition, or lymphatic temperament may have more to do with its explanation.

As I have mentioned, the virus may, while in the lungs, without giving evidence of its presence in other parts, produce certain symptoms indicative

of the irritation it gives rise to. There will be a slight "falling away," capricious appetite, weakness, cough, slightly quickened breathing and pulse. I have noticed in stables when one or two acute cases have occurred, that other horses have suffered from a troublesome sub-acute Pneumonia, manifested by a hard deep cough, a pulse, at the outset 56, sinking to, and remaining at, 48, respirations similarly varying from 24 to 16 per minute; auscultation disclosing harsh crepitating sounds, with loss of normal resilience; appetite for some time bad. Such cases have proved very tedious and intractable, remaining weeks or months on hand. They have been due, I consider, to tuberculous invasion of the lungs, and it has only been by great care having been taken with them that they have recovered. In one horse among three similarly affected in one stable, a Farcy bud or two appeared and burst before the patient's recovery.

In some cases, with miliary tuberculisation there is general Pneumonia; though in almost every case of a sub-acute type, the breathing will be laboured, and the pulsations 48 or more, the external symptoms being probably a slight diffuse enlargement of the submaxillary gland on one side, with a free yellowish discharge from the corresponding nostril. The nasal membrane will have a reddened tinge, occasionally from slight citron-coloured infiltration it will answer to the description copper-coloured; no ulceration may be visible.

The following symptoms were associated with a condition of lung the most markedly chronic that I can recall to mind, corresponding to the third state of *post-mortem* appearance that I have described. Pulse normal, respirations 12 to 14, two or three Farcy buds and indolent ulcers on the back and quarter, indurated swelling of the submaxillary glands on both sides, though one was larger than the other; a scanty discharge of a dark-grey colour from both nostrils, adhering but slightly; entire surface of septum nasi in a state of phagædenic ulceration; animal aged and very poor. An ordinary chronic case often presents the following appearances:—The animal looks well, is in fair condition, and has a glossy coat and good appetite; respiration may be nearly normal—generally about ten per minute; there is enlargement of the gland, varying from the size of a marble to that of an orange, seldom adherent but often very movable, though generally hard and lobulated; no ulceration in the nose is seen; unilateral discharge, whitish yellow in colour, not very adhesive, and at times very scanty; aptitude for work little diminished. The symptoms met with are so varying that it would be difficult to name one as constant, or to be waited for before a diagnosis is pronounced. Some cases are presented to us in which there is neither nasal flux nor ulceration. It is necessary, then, to note the character of the submaxillary glands, to scan the Schneiderian membrane for any old scar, and carefully examine its colour and appearance; as extended a view as possible should be obtained by using some reflecting mirror. The animal may be made to cough, and the condition of the chest also tested by auscultation; the pulse and character and number of the respiratory movements should be carefully noted, while the history and surroundings of the case may be valuable aids to our judgment. By these means, assisted by the general appearance of the horse, as a "falling away" or a staring coat, we are enabled to detect the presence of the disease before any symptoms affecting either the lymphatic system or the head are to be seen. And this is important, for I have met with instances where animals affected in this manner have stood for a long while unsuspected among other horses, and have undoubtedly communicated the infection to previously healthy animals.

The following may be mentioned as the chief symptoms shown in the course of the malady during its several different forms:—

1. "Falling away," or loss of weight.

2. General weakness, shown in many ways, from sweating under exertion to looseness of hair of mane and tail.
3. Increased frequency of respiratory movements.
4. Staring coat.
5. Quickened pulse (generally about 48).
6. Auscultation discloses dulness or abscence of healthy murmur, with harsh or crepitating sounds.
7. Pain and swelling in the muscles of the neck or limbs or round the joints, with sometimes lameness.
8. Isolated swellings in almost any part of the body, round and often deep-seated.
9. Enlarged condition of lymphatic vessels, with firm round swellings at intervals which may form abscesses, and result in deep circular rodent ulcers, showing no disposition to heal.
10. Swelling of the finer lymphatics of the skin over a great portion of the body.
11. General engorgement of a limb or anasarcous swellings beneath the trunk.
12. Nasal discharge generally, though not invariably unilateral, varying in colour and consistence, but usually characteristic for its constant presence, adhesive nature, and absence of fœtor.
13. Tumefaction of the submaxillary gland, commonly on only one side, varying from a soft diffused swelling to a characteristic hardness with lobular feeling: occasionally, in chronic cases, the gland has a more than usually diagnostic induration, with firm attachment to the jaw; its size also greatly varies.
14. Rodent ulceration on the Schneiderian membrane, or circular or lenticular shining elevations, of a yellow or red tint, previous to ulceration.
15. Yellowish infiltration of the membrane.
16. Shallow surface ulceration in patches.
17. Scars of old disease upon the septum nasi.
18. Snuffing sound in the upper part of the nasal passage, from swollen condition of the mucous membrane, and quantity of adhesive discharge.
19. Swelling of nostrils, and partial closure of the anterior naves.
20. Engorgement of lips and face, with conjunctival inflammation.
21. Dulness on percussion over frontal or maxillary sinuses.
22. Epistaxis, possibly Hæmoptysis.
23. Harsh deep cough.

The abscence of fœtor in the discharge has been objected to as in no way a diagnostic character, for the reason that it is sometimes present in Glanders; but I am confident that such an objection will not come from those most practically acquainted with the disease, for the reasons that, in the instances in which fœtor exists, and which, I think, are few, the nature of the case is so evident that we pronounce our opinion without venturing to test our powers of smell; and, in the examples of the complaint which demand our diagnostic ability, most practitioners will agree with me in saying that there is no fœtor.

It is an error to suppose that we shall find great induration of gland firmly attached to the jawbone, in the majority of cases.

I think that Epistaxis is more frequent than Hæmoptysis. I lately saw a horse which had suffered immense loss of blood; the stable resembling a slaughterhouse, from the state of its walls, while pools of blood and clot were lying about the ground. There had not been much nasal discharge, but the ulceration upon, and into the septum nasi was most severe, and the submaxillary glands were enlarged. At the time I was present the blood was

trickling slowly from one nostril without foam, and when the animal was made to cough no blood was ejected. I found, upon *post-mortem* examination, a frightful state of ulceration of the whole extent of the septum, which doubtless also extended to the turbinated bones, causing rupture of vessels. In the lungs nothing was found to indicate escape of blood; there was one immense cavity, but it was filled with pus—about a pint; the walls of this cavity presented an irregular granulating surface. Beyond this there was no sign of lung disease.

The implication of the lymphatics, which we may rightly call "Farcy," is occasionally co-existent with Glanders, sometimes preceding, at other times following it—all which tends to shew their connection and identity of origin.

There is as much liability to error in diagnosing Farcy, or risk of mistaking other affections for it, as in the case of Glanders symptoms. We cannot venture to call a case Farcy from the mere engorgement of a limb or joint, not even sometimes when abscesses are found bursting upon them. Other complaints simulate Farcy in these points. The diagnostic signs are corded lymphatics, true "buds," or a chain of ulcers, or ulceration of the characteristic chancrous type.

Causation.

The causes which induce the *growth* of this virulent element when in the system, or favour its reception, are overwork, low-feeding, exposure to cold and wet, overcrowding in close ill-ventilated stables, poisonous atmosphere from faulty drainage, and debilitating causes in general—some diseases for instance. Contagion is a very frequent source of the spread of the malady. I also think there is reason to believe in its capability of dissemination through the atmosphere of a stable; as in some establishments where the disease is often rife; and I am convinced that a horse coming from such an infected place should be viewed with suspicion, as likely to harbour the contagium in its system. The disease is possibly hereditary.

It is most prevalent among cab horses, whose work necessitates much exertion, with exposure to inclement weather, and which are often kept in close unhealthy stables. It is also frequent among studs or stables of horses exposed to the most favourable conditions as to cleanliness and ventilation, if they are habitually or periodically overworked.

On the question of the spontaneity of production of the contagium there is direct variance, one side resting on the fact that the virus is a definite specific element or cell, which produces only its own peculiar symptoms, and asserting their opinion that for ordinary simple causes to produce such extraordinary specific symptoms, there must be constitutional predisposition by the presence of the special organic poison in the system; also thinking, that if these simple conditions alone could so vitiate the organism as to cause the manufacture of the virus, cases or outbreaks of the disease would be even more frequent and widespread than they are.

On the other side are arrayed those who point to the apparent impossibility of tracing many isolated outbreaks of the disease to any source of contagion, and consider that from some alteration in cell-changes expressed by the oft-used phrase "prevention of nutrition," the contagium is occasionally formed within the system in cases where animals are exposed to influences of a weakening and enervating tendency. Till recently I adhered to the latter opinion, and deduced arguments favouring my view from my practical experience, as Professor Williams has done in his "Veterinary Medicine"; yet on closer consideration I am now disposed to favour the former views, though I am aware they are antagonistic to the opinions of later writers and most practical men with whom I am acquainted. I have no doubt that many outbreaks of the malady, apparently untraceable, are due to the prior

presence of the foci of disease in the lungs. Percivall, in his "Hippopathology" (Vol. III., pp. 248—317), has several apt passages supporting this view. In the same work he introduces an instance, now historical, of a sudden outbreak among cavalry horses on board ship; but I should certainly not adduce such an occurrence as strong evidence of a spontaneous production of the contagium itself. Horses for military purposes are sometimes purchased indiscriminately from various sources, and though they may undergo examination, yet latent disease of this kind would be difficult to discover.

If we may not hope to stamp out or suppress the disease entirely, as in the case of Rinderpest, Epizoötic Eczema, or other maladies, yet much may be done to restrict its extension. The local authorities in the metropolis have lately done much to deter horse-owners from evading the law, but it is desirable for veterinary surgeons to be acquainted with the provisions of the law, and to endeavour to have them carried out when they meet with the disease, or at least to use their influence to that end. Till this is done, no activity on the part of Government would be effectual in checking the progress of the disease.

Against our efforts to entirely eradicate the malady, is the fact of the length of time being so great during which the disease, or its virus, may remain dormant in the system. The long period of so-called incubation of Rabies may be capable of explanation in the same manner, the nervous centres being the parts in which the poison lies quiescent.

Curability.

Many medicinal agents have been tested in the treatment of this disease, and cures have been effected with each. I have known many horses lose all indications of its presence, both when Farcy symptoms alone were evinced, as well as in mild cases of Glanders. This would be the result, not only of medicinal treatment, but in a certain number of cases, if the patient were exposed to the renovating influence of natural exercise, succulent food, and the fresh air of the open fields.

Though diverse opinions are held as to the nature, causes, or other points in connection with the disease, unanimity prevails with regard to the line of treatment to be adopted. So much so, that I need not recapitulate its aims and features.

We see, as I have said, apparent recoveries; but I believe that the cause, or rather the producing agent of disease, is never ejected from the system. In Glanders the inflammation and nasal defluxion sometimes cease, while the glandular enlargement may or may not subside, and in the case of Farcy, the swellings may be dispersed, and the ulcers healed, the patient in each instance regaining healthy energy; but in both forms the lung mischief remains, in the presence of the tubercles, and will resume its baneful activity should the animal be exposed to any influences sufficiently debilitating. For this reason, as well as to avoid the distribution of the contagion, I think it a wise provision of the law which requires the declaration of every occurrence of the malady, and the slaughter of the animal affected.

The adage, "Prevention is better than cure," is here applicable; and first among the rules with that object in view, should be the isolation of any animal suspected of suffering from the disease, or which had closely cohabited or worked with one affected; immediate slaughter, under proper regulations, of every animal subject to the disease should follow.

Other points to which attention should be directed in dealing with an establishment or a stable where the disease has been prevalent, are—Have enough horses for the work; in fact, it is generally necessary to have spare horses, or lessen the hours of work, if required.

Perfect the drainage and ventilation. Closely examine all the horses, and destroy any with symptoms of the disease in a latent form, or isolate any in which there is suspicion of infection. Cleanse and disinfect the premises, replacing old and damaged parts with new.

Give good food in sufficiency, and exercise great care in selecting new horses.

I have not endeavoured to touch upon all the points in connection with this important subject, but chiefly those upon which facts or ideas occur to me as the outcome of my own experience.

I am well aware that the tendency of pathological teaching is to restrict the use of the word "tubercle" to one specific formation, as in what we may call "tubercle proper," and I wish it to be understood that I have only attached a literal meaning to my employment of the words "tubercle" and "tubercular," or else have used them in one or two places for want of a better name.

HORSE-PLAGUE IN CENTRAL ASIA.

THE *Moscow Gazette* of a recent date contains a paragraph from the official *Semipalatinsk Vedomosti*, stating that a terrible horse-plague has broken out in the province near the Chinese frontier. In the Pavlodar and Karkaralin districts not a horse remains alive. The officials are unable to collect information respecting the losses, because no horses are left for them to ride upon. The postal service on the post-roads has been stopped by the death of the post-horses, and in the villages the peasants have had to cease farming. The disease is believed to be the same as that which has been raging in Chinese Mongolia since 1875, and which has yearly been advancing towards Russia.

HUMAN AND ANIMAL VARIOLÆ: A STUDY IN COMPARATIVE PATHOLOGY.

BY GEORGE FLEMING, F.R.C.V.S., ARMY VETERINARY INSPECTOR.

(*Continued from p.* 351, *vol. X.*)

THE apparent absence of a specific character in the papular eruption produced by inoculating the Small-pox virus, might have led to the belief that it was merely inflammation produced at the seat of puncture. For instance, the first animal inoculated was a calf, which was inoculated at the vulva. A number of small papules appeared, and it was imagined that a very characteristic eruption of Cow-pox was about to be developed; but instead of developing into pustules, they rapidly disappeared without leaving any trace of their existence, and then the result was considered negative, and the animal put to one side. But being desirous, some time afterwards, of producing Cow-pox by means of vaccine lymph of Neapolitan origin, this calf, being at hand, was vaccinated from a magnificent pustule raised on another calf which presented a very fine vaccinal eruption. On the eighth day the inoculation had quite failed, greatly to the astonishment and regret of the Commission, as, relying on its success, they had not provided themselves with any more lymph, and had to send for another supply. Thinking the inoculation had not been properly performed, when the new lymph came it was tried again with the utmost care, but another failure resulted in this calf, while with other two animals—a horse and a calf—vaccinated at the same time, there was a beautiful eruption. The Commission were now compelled to admit either that the Small-pox inoculation had produced a specific eruption

capable of protecting the animal from Vaccinia, that it had been previously affected with that disease, or that it had no receptivity for the vaccine virus. At that time only about eight bovines had been vaccinated, and it was not certain whether this species would contract the Cow-pox in this way. The experiments were continued, altogether ten animals were variolised, and then vaccinated some days afterwards ; but six had no vaccinal eruption whatever, three had rudimentary and ephemeral pustules, and one only showed a regular and characteristic Cow-pox. Considering the readiness, as was afterwards found, with which true Cow-pox, human Vaccinia, and Horse-pox could be inoculated, and that the former could only be produced very exceptionally when the animals had been previously variolised, the conclusion arrived at by this important chance discovery was that variolisation exercises a neutralising influence on the development of Vaccinia ; and that the slightly-marked eruption, so undecided in character, caused by the inoculation of Small-pox virus on bovines, is of a specific nature—in this species presenting, with the Cow-pox, the same relations that Variola and Vaccinia do to each other in the human species.

It is curious to note that, in 1863, the same (Lyons) Commission was desirous of discovering whether Small-pox could be transmitted to animals, and they made a number of inoculations, but all these apparently failed. Subsequently the animals were inoculated with human vaccine, and the same negative result followed. But it was never suspected then that the vaccination failures were due to the previous variolation, supposed to be ineffective, and it was concluded either that human vaccine takes with difficulty on the bovine species, or the animals experimented upon had previously been affected with Cow-pox. It would thus appear to be demonstrated in the clearest manner that Variola and Vaccinia are related, or rather opposed, to each other in the bovine species, in the same way as they are in mankind. The negative results following variolation in animals which had been successfully vaccinated, was a crucial test of the soundness of this demonstration. Three animals—a cow and two calves—were variolised and vaccinated at the same time, the Small-pox matter being inoculated on the left side of the vulva, the vaccine lymph on the right. In the three there appeared on the right side the very characteristic vaccinal eruption, and on the left the typical papular eruption engendered by variolation, as in two of Ceely's experiments.

To prove whether, after all, the papular eruption produced by Small-pox might or might not be a mild kind of Cow-pox, the feeble eruption of which could, by a methodical cultivation on bovines, become more developed, its transmission was attempted to other cows ; for the eruption differed from human Small-pox in being always local, while the papules, neither in volume, external characters, nor development, bore the slightest resemblance to that disease ; whereas by its localisation, development, and the absence of general phenomena, it did somewhat resemble Cow-pox, though in other respects it widely differed. Three calves inoculated from the fully-developed eruption with all the care possible, showed still less local alteration, while with a young bull it entirely failed, and subsequent vaccination was most successful. From this it was concluded that the variolic virus, instead of being cultivable in the ox tribe, loses its activity, and scarcely produces any effect in the second generation.

Was this eruption, then, merely that of modified Small-pox? The results of Small-pox inoculation on man are nearly as well known as natural Small-pox itself, and there could be no mistake in the result if this bovine eruption was successfully re-transmitted to the human species. With the object of proving this, an unvaccinated infant, three months old, was inoculated with a very small quantity of serosity obtained by scraping some of the papules on a variolised cow. Four days afterwards on one of the punctures a pimple

was noticed, which soon assumed all the characters of a vaccinal pustulla, and in nine days it was large, umbilicated, surrounded by a red areoe; very irregular at its periphery, and covered on its surface with a kind of small vesicle; it was *aquarellée*. When opened, only a very small quantity of fluid could be obtained from it to inoculate the arm of another child. Next day the infant was feverish and ill, and on examining it carefully a great number of small pimples were found on the face and trunk; on the following day these were fine variolic pustules, the majority of which were umbilicated, and formed a quasi-confluent eruption. In a week the pustules were desiccating and the child recovering.

The child inoculated from this one had three punctures on each arm, all of which had a *bouton;* in eight days from inoculation the development of these was complete, and they so closely resembled vaccine pustules that several competent persons asserted they were such. The next day two small vesicles appeared around each pustule, and in four days some Small-pox pustules (about fifteen) showed themselves on the face and other parts of the body. The child did not appear to be unwell, and the slight general eruption disappeared rapidly without leaving any traces.

Thus, in a second generation in the human species the variolic virus from the cow had produced much better local effects than in the first, and incomparably feebler general effects. What might it have been in a third or a fourth generation? The fear of creating an outbreak of Small-pox in the hospital brought these transmissions to a conclusion. But even the very decided results obtained did not suffice to satisfy the Commission. After all, the eruption on the children, though it appeared to be due to nothing more than direct inoculation of human Small-pox, might be only generalised Vaccinia, which some authorities assert does occur. But such a confusion between the two diseases was proved by the foregoing experiments to be impossible. Deposit humanised vaccine beneath the skin of a calf, and an eruption of unmistakable vaccinal pustules is obtained, which can be indefinitely transmitted to animals of the same species. But inoculate with Small-pox virus, and there is only an insignificant papular eruption, the transmission of which from one calf to another is extremely difficult, if not impossible.

To meet any objections, however, that might afterwards be raised in this respect, two calves—a male and a female—were inoculated with virus from the last-mentioned child. In seven days, in both animals, there was a somewhat microscopic papule at the seat of puncture. One of these papules—on the scrotum of the male—was used for the inoculation of another calf, but the result was absolutely negative; proving, in the first place, that the virus transferred from Small-pox infected man to bovines, and carried back to man again, is still Small-pox virus, and is not converted into Cow-pox virus; and in the second place, that Small-pox is not Vaccinia.

Some experimenters had previously attempted to inoculate the horse with human Small-pox, but met with only negative results. The Lyons Commission undertook several series of experiments on this animal, somewhat similar to those on bovines, and arrived at analogous conclusions. The horse was as susceptible of inoculation as the ox tribe, and the same phenomena were produced; but the papular eruption developed at the punctures was so evident, that no doubt whatever could exist as to its presence and its specific character. Indeed, it was so greatly developed that inexperienced observers might have mistaken it for Horse-pox, particularly at the commencement. But in Horse-pox, as in Cow-pox, and even more so in the former, there is a secretion and the formation of a crust; but these are nearly, if not quite, absent in the inoculated Variola. The same experiments were made in vaccinating after inoculation, and *vice versâ*, as with the ox, with

exactly the same results. The horse was also proved to be as little adapted to the cultivation of Small-pox virus as bovines. Three children were inoculated from the horses, and though the phenomena observed are of considerable interest, yet I cannot allude to them in this place, but will merely remark that the patients offered symptoms, mild in their degree, similar to those which follow Small-pox inoculation. The result arrived at was that, as with the ox, the horse returns the Small-pox virus to man just as it receives it. But the production of Variola in the three children was followed by a mild attack of natural Small-pox in an unvaccinated infant in the same room; and its mother, who had been vaccinated as a child, was soon after affected with a true varioloid eruption, with fever and other signs of general derangement.

The variolic virus obtained from the equine species was cultivated in mankind to the fourth generation, and produced a local and somewhat modified general eruption. From the second generation horses were inoculated, and only the typical variolic exanthem was developed—never the unmistakable Horse-pox. Transferred from the horse again to the ox, in order to be assured that the eruption engendered by the cultivation in man of the Small-pox virus, transferred originally from him to the horse, was not that of Vaccinia, another series of experiments on cattle was instituted. Many horses were inoculated, and the conclusion arrived at was, that when carried to and cultivated on the cow, after producing in mankind, for several generations, local eruptions altogether identical in appearance to Vaccinia, the variolic virus of the horse only develops the phenomena of Variola, as in the bovine species.

Thus it will be seen how earnestly and exhaustively the Lyons Commissioners accomplished their task, and what conclusive results were arrived at. We can find no evidence anywhere in their report that the Small-pox virus was merely deposited in a little pouch, and re-inoculated from it again. On the contrary, marked phenomena were developed in every instance, and the crucial manner in which one series of experiments was made to test or control the results arrived at in another, left no room for doubt or error. Many of the experiments were original, particularly those on the horse, of which there were nine series.

The Commissioners, in closing their report, refer to the positive experiments of Thiele and Ceely as opposed to their negative ones—experiments which, they say, were extremely important, and which, notwithstanding the erroneous conclusions of their authors, will always hold a considerable position in science. Thiele and Ceely, they add, each experimenting independently, succeeded in giving Cow-pox to cattle by inoculating them with human Variola, and this Cow-pox became the origin of an excellent vaccine, which was cultivated in infants for more than twenty years, in certain parts of England, Germany, and Russia, and has passed through a great number of generations. It is not denied that they succeeded in obtaining positive results from their attempts to inoculate the cow with Variola; but that which is astonishing, after the results arrived at by the Commission, is not these positive facts, but the negative results which other experimenters almost unanimously acknowledge. But had Thiele and Ceely well observed and closely interpreted the facts the manifestation of which they elicited? Is it really true that they succeeded in converting Variola into Vaccinia? The Commissioners think not, and are of opinion that the children they inoculated with their variolic vaccine had nothing else than Small-pox, the same as the children in the Hôpital de la Charité. This kind of inoculation is now-a-days well known, and it is really not necessary to have recourse to a new inquiry to appreciate its signification with regard to the doctrine of identity of Variola and Vaccinia. What did Thiele and Ceely communicate to the cow? Was it Cow-pox? It was

nothing of the kind. The excellent drawings made by the Commissioners, representing the characters of the eruption produced in the ox by variolation, are evidence that there is not a very distant analogy between Cow-pox and the results of Small-pox inoculation. The Commissioners had not seen Ceely's drawings, consequently they did not know if they differed from those it produced; but they ventured to assert that if they differed from these, and represented eruptions of veritable Small-pox, the artist had not been absolutely inspired by the real truth. Nothing that Thiele and Ceely had done in inoculating the cow with Variola could have produced anything resembling Cow-pox, not even the extensive variolous wounds that were obtained, by making long and deep incisions in the skin, and pouring large quantities of Small-pox virus therein. But if their cows did not have Cow-pox, how were these two experimenters able to vaccinate children with the matter from them? The cows could not give that which they had not, say the Commissioners; and this is why, they affirm, the children operated on by Thiele and Ceely received Small-pox; and it was nothing but Small-pox which was developed on all their inoculated subjects. It was Variola such as the Commissioners had seen in their own experiments—Variola limited sometimes to the local primary eruption, and quite like Vaccinia; Variola often accompanied by a secondary eruption, which gave it its special physiognomy. Between the descriptions of the two experimenters, and those given by the Commissioners, as to the eruptions which offered benignant characters, there was not the slightest difference; and if the children inoculated by the latter were affected with Variola in consequence, so should those of Thiele and Ceely. If the virus of the latter is really vaccine, then it should give Cow-pox to the cow at once, like the Jennerian vaccine; if not, then it will only produce the papules of the variolic eruption.

With regard to the pretended innocuousness of Thiele and Ceely's so-called vaccination, reported to be as absolutely harmless as true vaccination, the Commissioners did not believe that it was due to the passage of variolic virus through the bovine species, as it was found that it underwent a considerable attenuation in the organism of the ox, and could only be propagated through a very limited number of generations; but when returned to the human species, it appeared to regain all its activity. When first transmitted to man from the ox or horse it caused a very abundant, almost serious, secondary eruption, while all the children inoculated from this transferred virus had a discrete and almost insignificant eruption. The Commissioners clung to the opinion that Thiele and Ceely only practised variolation, instead of vaccination; and they therefore gave the children they inoculated better protection than if they had been vaccinated, if they did not expose them to more dangers. A question of much interest is that of the innocuousness of mediate variolation, and if it be proved to exist, the Commissioners thought recourse would at once be had to Thiele and Ceely's method when good vaccine lymph could not be procured. But there is the grave danger of *contagion;* for in passing through the organism of animals the Small-pox virus loses none of its infectious properties. Experience has only too well proved this, and this is why mediate variolation, like direct variolic inoculation, would create, if it became generalised, permanent centres of infection, which would soon cover nearly the whole globe. This danger does not exist with the vaccine virus; and therefore it is, that vaccination will always hold the first place in the prophylaxy of Small-pox.

I think I have now offered sufficient evidence of a clinical and experimental kind to prove that the Variola of man is not that of the cow, and that by no possible means can the virus of the one be transmuted into that of the other. The bovine organism cannot reduce a general eruptive disease, due to an exceedingly infectious virus, to a merely contagious and very mild disorder,

accompanied by a limited local eruption. No more can the organism of the sheep; for the many experiments which have been performed with the Small-pox virus have not modified it in any respect, and it has retained all its original infective properties. Neither can the human organism transform Vaccinia into Variola, for had this been possible, surely the millions of vaccinations which have been made under every condition during this century, would have afforded us some evidence of such capability! If Vaccinia cannot be transformed into Variola, as little probability is there that Variola can be changed into Vaccinia.

Years ago the veterinary professor, Hering, had repeatedly inoculated the cow with vaccine lymph, and found that this gave it renewed potency. The veterinarian Numann made similar observations, and incidentally noticed that the bull is as susceptible as the cow; also that the horse and ass are, but that their vaccine, when re-transferred to man, is slower in its action than that from the cow. Besides, the transmission of Vaccinia by inoculation from cow to cow is accomplished without any difficulty, and the successive transplantations of the same lymph does not appear to have any influence on the development of the resulting pustules. In the very numerous experiments of Depaul, it was found that the pustules of the last inoculated animal offered the same characters and dimensions as those of the cow first inoculated. How is it, then, that the vaccine virus can be transmitted for generations from cow to cow, cow to horse, or horse to horse, retaining all its primitive potency, and even becoming revivified when carried from the human species; whereas the virus of human Variola only produces a local papulation in them, quite unlike Vaccinia, which can rarely be reproduced more than two or three times, and which always develops Small-pox when inoculated again on man?

From all the evidence I have adduced, there is every reason to think that those experimenters who imagined they had produced Vaccinia by inoculating the cow with variolous matter, were in error; and if it be true that they employed the virus from the cow in vaccination, then if the above evidence be accepted as trustworthy, there is reason to believe that it was merely the Small-pox virus returned again to the human species, just as it was obtained from it. There are instances on record in which the most serious results have followed the attempts of imitators of Gassner, Thiele, Ceely, and Badcock—outbreaks of Small-pox resulting. Have the widespread epidemics of Small-pox in recent times been to any extent due to these inoculations of the cow with human Variola, with the view of obtaining vaccine lymph?

However these questions may be answered, one thing must be looked upon as definitely settled, and that is, that Small-pox is not Cow-pox; they are independent and distinct members of a family group, and can no more be transmuted or converted into each other than can two dissimilar plants or animals. The error in supposing that they are transmutable—or rather, that Small-pox can be converted into Vaccinia—was due, in all probability, to inacquaintance with experimental methods, an inability to appreciate the results of experiments, and imperfect knowledge of animals and animal disorders. No control experiments were resorted to, as with those of the Lyons and Turin Commissions, and what may have looked *like* Vaccinia was accepted *as* Vaccinia. In no other way can I account for what must now be considered a grave error.

In insisting upon the correctness of this view, and urging its importance not only with regard to comparative pathology, but also the prevention of an odious and destructive human plague, I am well aware that I am placing myself in an attitude of antagonism to very high and estimable medical authorities in this country; and especially Sir Thomas Watson, who, in a paper in the *Nineteenth Century* (which paper has been recently republished in a small volume), says, "The truth is, that the vaccine disease is really

Small-pox rendered mild by passing through the system of the cow; the great object of inoculating the Small-pox was to produce a benignant form of the disease by diminishing the number of its pustules."

I have shown that there is no relationship between the prevalence of Cow-pox and Small-pox, and that the one may, and does, prevail in localities, and at times when and where the other is not seen. In Denmark, for instance, Small-pox is all but extinct, and yet cases of Cow-pox are far from rare. The difficulty experienced by those who believe in the unity of the two diseases, in accounting for this circumstance, is attempted to be got over in various ways. Bollinger, for instance (*Sammburg. Klinischer Vortrag*, No. 116), thinks that Cow-pox owes its existence sometimes to humanised vaccine—the most extended and extensive of all the forms of variolic contagium; he says, "We must look," he writes, "to humanised vaccine as the source from which the greater number of cases of bovine Variola have their origin." A few instances are certainly recorded in which, apparently, accidental infection of cows by recently-vaccinated people has occurred. Osiander alludes to the case of a cow which was so infected by a boy who had been vaccinated a short time previously. In the Prussian veterinary reports on contagious diseases among animals for 1870-71, Koch reports that the vaccination of the people on a farm occasioned the infection of the cows with Cow-pox, and in the same reports for the following year an outbreak of Vaccinia was announced as having taken place among a lot of cows, consequent on the re-vaccination of three dairymaids. In three weeks the disease appeared, and gradually extended, so that in fourteen days, of twenty-six cows, only three escaped. The majority of the cows had only a few pustules upon the teats, but others had a number upon the teats and udder. In the same reports for 1874-75, Damman describes an outbreak of Vaccinia in several sheds in the Rugen Kries, while in the district many children had been vaccinated, and the vaccine vesicles were fully developed. Schneider informed Bollinger that in 1876, after several children in a certain locality had been vaccinated, four cows in two sheds in the same place became affected with Cow-pox; two dairymaids became accidentally inoculated from these, and one of the women communicated the infection to her children, who had not been vaccinated. Reiter also told Bollinger that in cowsheds where he vaccinated cows, several non-vaccinated animals showed the characteristic indications of the disease, which ran its course in the ordinary manner.

Though there is no reason to believe that Cow-pox is infectious—*i.e.*, virus *volatile*—yet there is as little reason to deny that cows may not become affected through contact with newly-vaccinated persons, provided that some vaccine lymph obtains access through a sore. But it is evident that this chance inoculation will not account for many, if any, of the reported cases of Cow-pox.

(To be continued.)

THE FITZWYGRAM PRIZES.

THE competition for these prizes—open to all students who had graduated during 1879-80—took place in London and Edinburgh on May 4th and 24th. The examiners were Messrs. H. J. Cartwright, Wolverhampton; T. Greaves, Manchester; and F. King, School of Medicine, Edinburgh. Only three competitors were entered: one from the Royal Veterinary College, one from the Edinburgh Veterinary College, and one from the Edinburgh New Veterinary College. Mr. J. W. Ingram, of the last-named school, alone obtained the qualifying number of marks (1,020) in the written examination. He was not required to undergo the practical examination, but received the

first prize of £50. One of the competitors was presented with £15, the other with £10. The terms of the competition were that each competitor should obtain two-thirds of the marks allotted to each subject. Mr. W. H. Coates officiated as superintendent.

HEPATIC DISEASE AMONG EUROPEAN HORSES IN EGYPT.

DR. E. VILLORESI, of Cairo, in the *Revue der Thierheilkunde*, contributes an important and interesting paper on what is called the "Liver Disease," which attacks nearly every European horse brought from Europe to Egypt. The name was given to it by the veterinarians who first studied it, and who, from some of its more salient symptoms, believed it to be due to hepatic derangement. Its usual form is described as follows :—

No premonitory symptoms, but all at once loss of appetite, somnolescence, drooping ears, coat dull and staring, loins rigid, blunted sensibility, eyes dull and glassy ; visible mucous membranes more or less yellow ; pulse soft and quick. The surface temperature of the body is irregularly distributed, but the internal temperature is, on the contrary, raised from one to ten degrees. Fæces are scanty, yellow, and fœtid ; the urine is greatly diminished in quantity, and passed at long intervals, when it is turbid and sanguinolent. These symptoms gradually increase in intensity, and towards the fifth day are complicated by very intense dyspnœa, when the movements of the flank become hurried, and the nostrils—widely dilated—are often soiled by a yellowish discharge. The extremities are cold and frequently œdematous. The conjunctivæ assume a bright yellow tint, petechiæ appear on them, and sometimes the corneæ loose their transparency. When the animal moves, progression is uncertain and staggering ; and a more or less audible sound accompanies the flexion or extension of the joints. The internal temperature is raised to 40° to 41° (104° to 105.8° Fahr.) ; the flanks become more and more agitated ; and towards the seventh day the horse falls and dies without convulsions. In the mildest cases, these symptoms, of course, are not so acute ; but they always persist until the seventh day, when there usually appears to be a crisis, which in a few days leads to amelioration or death.

After death, *rigor mortis* sets in rapidly, and the abdomen quickly becomes tympanitic. The peritoneum is hyperæmic, and its cavity contains a great quantity of serum ; the pleura is in the same condition, though to a higher degree, and frequently there are pleuritic alterations. There are injection, thickening, and softening of the mucous membrane of the stomach and intestines, with patches denuded of epithelium, surrounded by dark circles and extending around the entire circumference of the intestinal canal. The intestinal glands and portions of Peyer's patches are hypertrophied and purulent. With regard to the liver, Villoresi has never seen anything more amiss with it than is found in all serious disturbance of the organism. He therefore thinks that the name commonly given to the disease is utterly misleading, and that the alteration in the liver is the consequence and not the cause of the malady ; the icteric tint of the mucous membranes, and the pulmonary and intestinal disturbance are not due to that organ. Basing his views on the symptoms and lesions observed, he considers the affection as an intestinal Typhus, and designates it a *Typhic Bilious Fever of European horses in Egypt*. He does not look upon it as contagious.

The horses attacked are those belonging to the different European breeds, but the most predisposed are those of France (Percherons and Normans) and England, but still more those from Russia, Hungary, Italy, and among the latter those of the Maremma. With young and robust animals the disease

is more violent, and runs a more rapid course, either towards recovery or death; while with old animals its progress is slower, and the effects of treatment are much more uncertain. Arab horses, and those bred in Egypt, are rarely attacked, and then only in a slight and benignant form. Sporting dogs imported from Europe to Egypt are subject to an analogous disease, which is not "Distemper," but a special form of Typhus similar to that of horses.

The etiology of the malady is obscure, and Villoresi seeks it in the ordinary conditions of predisposition, climate, food, water, etc. The prognosis is always serious when early treatment is not effective. With regard to treatment, the abstraction of blood was always hurtful, and other measures had to be resorted to as occasion required. Prevention consisted in good stable management, avoiding sudden transitions of temperature, paying particular attention to acclimatisation, diet, etc.

THE FIRST ANNUAL DINNER OF THE ARMY VETERINARY DEPARTMENT.

THE officers of the Army Veterinary Department held their first Annual Dinner at Anderton's Hotel, on Friday, June 11th. The attempt to bring together a number of gentlemen from every part of the country proved a decided success, and the muster was most creditable. We anticipate much good from these annual gatherings, and if they can only realise a tithe of the benefit which is so much required in the department, they deserve the support of every officer in it. The following gentlemen were present:—Messrs. Collins, Aitken, Berne, Burt, Cheesman, Dibbin, Dwyer, Evans, Fleming, Ferris, Findlay, Gudgin, Glover, Harpley, Lambert, Mence, Marshall, Masters, Matthews, Owles, Phillips, Philips, Pallin (S. L.), Rostron, Riley, Rowe, Reilly, Russell, Sewell, Short, Sartin (S. R.), Thomson, Walker, Walters, Wilson, Woodroffe.

VETERINARY SURGEONS IN THE PRUSSIAN ARMY.

THE Berlin Veterinary School was established mainly for the education of veterinary surgeons for the army. The military students are those who have means but wish to enter the army as veterinary surgeons, and those who are poor, but talented, and are educated at the expense of the country, the cost of their education being afterwards repaid in the form of military service. The matriculation standard of education is very high, and when the examination has been successfully undergone, the student is furnished with quarters, books, instruments, and all tuition free of charge, and is even allowed a small amount of pocket money. The course of instruction at the Veterinary School is most thorough, and extends over about four years, the series of lectures going on during the year with only an interval of a month or so. For each year of gratuitous tuition at the Veterinary School, the graduate has to serve two years in the army.

The military students have a First Class Army Veterinary Surgeon placed over them, to see that they attend to their studies, and to give them weekly examinations on the subjects they have been taught; and if he considers any of them indolent or incompetent, he at once subjects them to a test examination. Should they fail to satisfy him, they are dismissed the school, and sent back to the army to serve their appointed time as soldiers.

On Sunday morning the military students have to appear on dress parade. They are also expected to work for two hours every evening, after the school lectures are over; otherwise they are at liberty to dress as they may, and go where they please. They are allowed one evening a week to spend at the theatre, or other place of amusement. Six months' instruction in the forge has to be undergone by the military students, who must be able to shoe a horse, and understand everything pertaining to farriery.

The education is of the most thorough, scientific, and practical character, and when the student has undergone a most searching examination at the completion of his course, and receives his diploma, he enters the army, and serves four, six, or more years in repayment for his training, accommodation, and tuition at the Veterinary School. He first holds the rank of serjeant, and receives an allowance of about £55 a year; he is designated "Unter-Rossarzt." After serving the appointed time, if he chooses to remain in the army, he holds the same rank, but his yearly pay is £67, and he has the title of Rossarzt. He is allowed to do private practice, for which he can charge the same fees as an ordinary civil practitioner. After eight or ten years' service, and after spending another year at the Berlin Veterinary School—for which purpose he can obtain a furlough and a grant of money to maintain himself while at the school—he is allowed to present himself for examination, when, if successful in passing it, he attains the relative rank of a Second Class Paymaster, and receives from £110 to £125 per year, with the title of "Ober-Rossarzt." Then he can subsequently present himself for another examination, and if successful, reaches the next step in rank that an ordinary veterinary surgeon can hold in the Prussian army—that of Paymaster of the First Class, the annual remuneration being £150 to £165, and the title of "Korps-Rossarzt." Army veterinary surgeons are also eligible for high posts in the civil departments of the profession. If they remain in the army for a certain period, they can retire upon a pension, the amount of which is in proportion to their length of service and the rank they hold.

It need scarcely be added that rewards and honours are open to these veterinary surgeons, and are liberally bestowed.

NATIONAL VETERINARY CONGRESS AT BRUSSELS.

We have to announce that on July 8th—the 50th anniversary of the independence of Belgium—a National Veterinary Congress will be held at Brussels, under the august patronage of the King of the Belgians. The inaugural meeting will take place at ten o'clock on the morning of that day, at the Communal Hotel at Cureghem-lez-Bruxelles, and the Congress will hold its sittings for at least three days. The subjects for discussion are: (*a*) Veterinary Deontology; (*b*) Inspection of Animal Food; (*c*) Legislation with Regard to Soundness; (*d*) Organisation of the Civil Veterinary Service. Mr. Fleming has received a special invitation, but it is his intention to attend and represent the veterinary profession of this country, as President of the Royal College of Veterinary Surgeons. Members of the profession who may desire to be present at the Congress, should address themselves to Monsieur Crevecœur, Médecin Vétérinaire, Louvain. We can assure them of a hearty welcome from our Belgian *confrères*.

Proceedings of Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETINGS OF COUNCIL, HELD WEDNESDAY, JUNE 16TH, 1880.

Present:—The President in the chair; Professor Axe; Messrs. Batt, Blakeway, Cartwright, Coates, Collins, Cox, Dollar, Dray, Sir F. Fitzwygram, Freeman, Greaves, Harpley, Morgan, Reynolds, Taylor, Whittle, Woods, and the Secretary.

The SECRETARY read the notice convening the meeting.

The SECRETARY laid on the table the Attendance Book of Members.

The minutes of last meeting were read and confirmed.

The Annual Report from the Veterinary Department of the Privy Council was presented to the Council.

Diplomas were signed by the President.

Letters were received from Messrs. Cartwright, Cox, and Dunn, acknowledging the honour of election as Vice-Presidents.

Letters were also received from Professor Simonds, Professor Walley, Mr. W. Williams, and Mr. Robertson, of Kelso, regretting their inability to attend the meeting.

The SECRETARY stated that he had received a letter from a Mr. H. Wand, stating that, on account of an attack of congestion of the lungs, he had been unable to pursue his studies in order to obtain the certificate from his teachers.

The PRESIDENT said that Mr. Wand must be informed that he must study the requisite number of terms, and forward the usual certificate.

The PRESIDENT said that a letter had been received from Professor Bentley, asking the date of the examination in July.

The SECRETARY said that, in a letter received from Professor Simonds, he had fixed the 6th of July.

The PRESIDENT said it would be well to inquire of Professor Simonds, whether there was to be a first examination.

The SECRETARY said he had received a letter from Mr. W. T. Olive, of Briton Ferry, Glamorganshire, asking what are the conditions of registration in the Supplementary Charter of August last. He had been in practice since 1860, but he was not a holder of the Highland and Agricultural Society's certificate. He was informed, in reply, that registration under the Supplemental Charter was only given to those gentlemen who held such certificate.

A letter had also been received from Mr. Edward Davies, dated 18th May, in which he stated that he had attended four sessions at Edinburgh, and that he came up for the minor examination under the old rules twice, and was rejected. He asked on what terms he might start under the new rules?

The SECRETARY was instructed to reply that Mr. Davies must commence *de novo*.

The Penal Act.

The SECRETARY, referring to the motion which had been brought forward at the end of the Annual General Meeting by Mr. Dollar, in regard to the Penal Act, stated that he had since received three letters from the Yorkshire, Lancashire, and Liverpool Veterinary Medical Societies, in support of the above-mentioned Act.

The PRESIDENT said that, as Mr. Dollar was now a member of the Council and a Vice-President, he would be able to bring forward his motion in the ordinary way.

The SECRETARY was instructed to acknowledge receipt of the three communications.

General Sir F. Fitzwygram's Motion.

The consideration of the notice of motion given by Sir F. Fitzwygram as to the advisability of appointing a second Examiner in each subject in the Pass Examination was postponed on account of the absence of Mr. Williams who had expressed his desire to be present at the meeting, but who had written to say he was unable to be present.

Mr. Fleming's Motion.

The PRESIDENT moved: "That steps be immediately taken to obtain an Act of Parliament for the Protection of the title of Veterinary Surgeon." He had no doubt they were all acquainted with the terms of the motion, and of the feeling of the profession in regard to it. He had nothing more to say in the matter. He believed the Council had expressed its opinion that steps should be taken to carry out this project, and it now remained for them to say what these steps should be. He would leave the matter in the hands of the Council, and would suggest that no time be lost in taking action.

Mr. GREAVES said he had always had a strong feeling in favour of getting what would be a simple act of justice done to the veterinary surgeons of England. He was present at the Veterinary Medical Associations when this matter was brought before them, and also at another association in Belfast. He could assure the Council that the feeling throughout the country had been strongly in favour of obtaining an Act to obtain the penal clause to prevent men calling themselves veterinary surgeons who were not veterinary surgeons. Up to the present time they had had the difficulty of the Highland Society operating against them, because the members of that Society were not members of the College. Now that difficulty had been superseded, there seemed to be no obstacle in the way. He thought the time had come when Parliament should be applied to for an Act, and that as soon as possible. He asked the President what the possible cost of obtaining the Act would amount to?

The PRESIDENT said he could form no estimate.

Mr. COLLINS proposed the appointment of a small committee to consider the matter, and to report to the next meeting what steps they proposed to take.

Mr. P. TAYLOR seconded the motion.

The PRESIDENT suggested that the small committee should be merged into the Parliamentary Committee. This being agreed to,

The appointment of the Parliamentary Committee was then proceeded with, and the following gentlemen were elected as members:

The President, Messrs. Batt, Collins, and Cox, Sir F. Fitzwygram, Mr. Dollar, Mr. Greaves, Mr. Harpley, and Mr. Woods (three to form a quorum).

The following motion, of which notice had been given by the President, also came up for consideration:—"That before a medical gentleman is allowed to appear for any examination, he shall furnish sufficient evidence as to the legal qualification he holds in medicine or surgery."

The PRESIDENT said it was well known in different parts of the country that diplomas were issued which conferred no legal status at all in medicine, and the veterinary profession, with other bodies of a similar kind, were exposed to be imposed upon by men who held these diplomas. He thought that those who came up to receive our diploma should give evidence that they were qualified members of the medical profession in some part of the world or another. He himself had an instance of one gentleman coming up for examination, and he did not know he was a medical gentleman until after he had examined him; and the College had no evidence that he was

legally qualified. He thought it was necessary that such evidence should be furnished, in order to make the College secure. He begged to move the resolution.

Mr. REYNOLDS seconded the motion.

Mr. COLLINS asked what constituted legal evidence. There were certain universities and colleges abroad that were supposed to be recognised or not recognised, as the case might be; but there was no definite rule laid down. If the bye-laws were carried out strictly, it would not be necessary to obtain legal evidence. If they were legally qualified practitioners, what further evidence was necessary?

The PRESIDENT pointed out that the bye-law did not lay down anything with regard to presenting the legal testimony. It was only taken for granted. It had been settled by the Council that the standard of the Royal College of Surgeons, or the Royal College of Physicians, should be taken as a guide in this matter. These were the bodies which were most likely to know what schools gave a proper medical course of study, and granted a proper qualification. The motion he proposed made it compulsory on the candidate to present his diploma of qualification, in order that the Council might not be imposed upon.

Sir F. FITZWYGRAM thought there was a misunderstanding about the matter. He did not think any man could present a medical diploma recognised by law unless he was on the General Medical Register. Mr. Loch had told him that no diploma whatever was recognised by law except the diplomas of those on the General Medical Register. If a man showed that he was on that Register there was an end of the matter.

At this point the SECRETARY read from the Calendar of the Royal College of Surgeons the names of the recognised medical faculties in foreign countries.

The PRESIDENT said it was well known that the Royal College of Physicians and the Royal College of Surgeons recognised certain medical faculties in America and the Continent as legal faculties, which were qualified to give diplomas in medicine. He thought they would find in the bye-laws that was the case. The rules of the colleges he had mentioned also recognised certain medical schools, especially in America. The Royal College had a case lately where, on inquiry, it was found that the diploma was of no legal value.

Mr. GREAVES wished to ask whether none but those whose names were on the Register of the Royal College of Surgeons or the Royal College of Physicians could be admitted. Although the name was not on the Register, still he ought to be allowed to come up for examination if the investigation into his case was satisfactory.

Sir F. FITZWYGRAM said that the present rule only allowed those whose names were on the English Medical Register, and if they admitted gentlemen with qualified foreign diplomas they would have to enlarge their existing law.

The PRESIDENT said that the impression on his mind was that medical gentlemen holding a qualification from a medical faculty recognised by the Royal College of Surgeons or the Royal College of Physicians were competent to study under the bye-laws of the Royal College of Veterinary Surgeons. If his impression was erroneous the Council had been acting wrongly, because two American gentlemen had claimed and received the benefit of the bye-law.

Mr. MORGAN proposed as an amendment:—"That no gentleman be allowed to escape the first term before he comes up for examination whose name is not on the British Medical Register."

Mr. COLLINS seconded the motion. It was a clear and defined line. It

could thus be ascertained whether the applicant was a member of the English Colleges or not. If he were a foreigner the information could not be so well obtained.

The PRESIDENT wished, before the amendment was put, to inform the Council that it would place the Examining Board rather in a fix. Already at Edinburgh there was an American gentleman studying who applied to be exempted from the first term; but it was discovered, in reference to the rules of the Royal College of Veterinary Surgeons, that his diploma was not recognised in this country; therefore he had to study the full term. And he thought there was another gentleman at the Royal Veterinary College, also an American, and that he was exempted from the first term of study. When he came up for his final examination what was to be done with him? He would have to go back to his first term of study.

Mr. COLLINS said in this case an exception might be made.

Professor AXE said it was worth while considering if they, as a Council, had power to reject a pupil who was presented to them for examination.

Mr. TAYLOR asked whether, if the applicant said he had the diploma of some college, he should forego the first term of study.

Professor AXE said it seemed to him to be a question of arrangement between the student and the College. He simply suggested to the Council that it would be worth while to consider whether, on a student coming up for his first examination, receiving his certificate from a college, the Council had the power to reject him.

Mr. COX asked what college was referred to.

Professor AXE said he meant any college. Supposing a gentleman entered himself as a student at any of the recognised schools in England or Scotland, the College would admit him on certain terms, providing he should attend two or three sessions as the case might be, on consideration that he had passed certain examinations abroad. If the colleges admitted him, had the Council power to reject him or decline to exame him?

The PRESIDENT said that the Royal College of Veterinary Surgeons could not grant a diploma to unworthy students. It had the right to obtain the fullest proof that the medical gentleman who presented himself was legally qualified, because he was exempted from a very important period of study. His object in bringing the motion forward was to furnish the Royal College with proof that a man had really qualified at a properly legalised university or faculty of medicine. He thought that the Royal College should exercise every care in ascertaining who those were upon whom they intended to confer their diploma.

Professor AXE said that the way in which the matter was put seemed to suggest that there was an obstacle. He took it that it was not within the province of the Council or of the Examiners to decide on the qualifications of a man by his antecedents. If a gentlemen presented himself he thought it was for the Council of Examiners to decide on his qualifications by the merit he manifested in his examination, and not by the fact as to whether he had passed through any college or was exempted or not at any school. It seemed to him that schools were responsible for the gentlemen they received for teaching purposes. He did not think, from the manner in which the matter was put, that the Council was in a legal position.

Mr. COX said that the Council surely had the power to determine under what circumstances the student might offer himself. It seemed very important that there should be a rule for the College as to whom they would admit. The difficulty seemed rather to be in determining as to which medical faculties, colonial or foreign, should be accepted.

The PRESIDENT then put Mr. Morgan's amendment to the meeting.

Mr. COLLINS withdrew his seconding of the motion, because he said he

was not aware when he seconded it that so many different colleges were recognised by the Royal College of Surgeons.

The amendment was lost, and the President's motion was put and carried.

The names of three members had been received as candidates for Fellowship Degrees.

On the motion of Mr. COX, seconded by Mr. FREEMAN,

The President, Mr. Collins, Professor Duguid, and a member of the College of Preceptors, were reappointed Examiners for the Fellowship Degree.

It was resolved that the examinations take place in London on the 6th of July, and that the examination in Scotland would be held at the usual period if there were any students to examine.

Election of Committees.

The following gentlemen were elected members of the various Committees:—

Museum Committee.—The President, Professor Pritchard, Professor Axe, and Mr. Coates.

Finance Committee.—Messrs. Cartwright, Greaves, Harpley, Morgan, Taylor, and Coates.

House Committee.—Messrs. Batt, Greaves, Harpley, and Pritchard.

Register Committee.—The President, Messrs. Coates, and Collins.

Sir F. Fitzwygram and Messrs. Collins and Dollar were appointed as a small committee to take into consideration some better means as to the mode of voting paper for the annual elections.

On the recommendation of Mr. COATES, it was resolved not to print the Register until after the examinations, as it would be desirable to enter the names of those who would then be admitted.

Library Committee.—Professor Axe, Mr. Blakeway, and Mr. Harpley were appointed members of this Committee.

New Building for the College.

The PRESIDENT again called attention to this subject, and to the necessity of some active steps being taken in the matter. He thought the profession had some claim on the Farriers' Company, who had plenty of funds, and who would, no doubt, be willing to assist in the matter.

In the course of some conversation it was suggested that a deputation should be appointed to wait on the Farriers' Company in order to lay the views of the Council before them. It was also suggested that representations should be made to the Government on the subject, but the feeling of the Council seemed to be that the present session would be rather inopportune. It was subsequently arranged that Mr. Batt, who was connected with the Company, should make inquiries privately as to the feelings of the Company in regard to the proposal, and to report the result to the Council at the next meeting. Also that next Parliamentary Session a quorum of the Parliamentary Committee be appointed to wait upon the Lord President of the Council in order to present their views.

The names of Professors Simonds, Brown, Pritchard, Axe, Walley, and Williams were added to the Parliamentary Committee.

The SECRETARY read the result of the Fitzwygram prizes, as follows:

The Fitzwygram Veterinary Prizes.

These prizes were open to all students who graduates at the Royal College of Veterinary Surgeons, and to the students who had obtained their diplomas during 1879-80.

The Examiners were Mr. H. J. Cartwright, of Wolverhampton, Mr. Thos. Greaves, Manchester, and Mr. Falconer King, of the School of Medicine. Edinburgh.

The names of three candidates only were entered on the list: one from the Royal Veterinary College, one from the Edinburgh Veterinary College, and one from the Edinburgh New Veterinary College.

The written examination took place in London and Edinburgh on Tuesday, 4th, and Wednesday, 24th May.

The following is the result:—

	Anatomy. 300	Physiology. 300	Pathology. 300	Chemistry. 100	Materia Medica. 125	Botany. 75	Total.
No. 35	235	215	200	46	84	44	824
„ 37	250	245	275	78	120	52	1020
„ 38	165	250	215	36	91	46	803

Mr. James Wood Ingram, No. 37, of the New Veterinary College, Edinburgh, was the only one who obtained qualifying marks in each subject; the other two (Nos. 35 and 38) failed.

The First Prize (£50) therefore is awarded to Mr. Ingram; there being no other qualified competitor he was not required to go through the examination in part (practical).

To No. 35 the donor kindly presented £15; ditto to No. 38, £10.

The terms of the competition were: that each competitor should obtain two-thirds of the marks alloted to each subject.

Mr. W. H. Coates officiated as Superintendent.

A. W. HILL, *Secretary.*

Mr. DOLLAR moved, "That a Committee be appointed to consider the best steps to make Clause 12 of the Supplementary Charter available for the benefit of the profession, and to report thereon." He explained his motives for bringing forward the motion, remarking that the present clause was a "white elephant," and was of no use to the profession. He was of opinion that a set of rules should be drawn up by the Council to define their disciplinary powers, the same as were held by the other professions.

After some conversation the subject was allowed to drop.

The PRESIDENT gave notice that he would move, "That on and after the year 1884, no candidate for the diploma of membership be allowed to present himself for the final examination unless he shall have given sufficient proof that he has served a pupilage of at least one year with a duly-qualified member of the professsion, and during that time has conducted himself satisfactorily.

A SECOND SPECIAL MEETING

was then held, to take into consideration the amendment of Bye-law No. 4 by Mr. James Collins.

Mr. COLLINS said that this was a matter affecting the votes of members abroad, particularly the army members serving in India, and asked leave of the Council to refer the matter to the Committee that had already been appointed in connection with the votes of scrutineers.

This was agreed to.

To suit the convenience of members from a distance it was resolved, on the motion of Mr. BLAKEWAY, seconded by Mr. DRAY, that the time of the Council meetings should in future be 3 o'clock instead of 4.

The Council then adjourned.

CENTRAL VETERINARY MEDICAL SOCIETY.

AT an ordinary meeting of this Society, held at No. 10, Red Lion Square, W.C., on June 3rd, in the absence of the President, Prof. Axe took the chair.

The CHAIRMAN introduced a specimen, together with a sketch made during the process of bone-production, more especially to show the very perfect condition the limb exhibited, inasmuch as it appeared a very material improvement upon the pathological changes which had previously ensued upon an accident relating to it. In Mr. Olver's (Tamworth) communication, he said:—"In October, 1878, being in attendance on some horses at a farm, I was asked to look at a yearling heifer that had fractured its near hind leg a fortnight previously; the owner of the animal had attempted to set it, but in an unsatisfactory manner, by encasing it within four straight boards and wrapping the whole with bandages saturated in tar; the weight of the appliances in themselves scarcely permitted the animal to move, and it was very emaciated and suffering great pain. The owner expressed a wish to have everything done that was possible. I removed the so-called splints and bandages, dressed the wound at the front of the fetlock, extending up the metatarsal bone, with carbolic acid, covering it with a plaster of Paris bandage. Observed a change on October 25, when I again applied a plaster bandage higher up the front, leaving an opening for discharges, and dressed the wound and passage with carbolised acid in the proportions of one part to seven, regularly applied night and morning, and ordered the animal to be kept quiet and well fed. On November 29 I took off the bandage, when the whole lower third of the metatarsal bone came away, which I kept and sent to Professor Axe. At that time I applied another bandage on the previous one to strengthen the leg." The Chairman said he asked to be allowed the leg for dissection whenever the animal was slaughtered, which was just lately, when he received the piece of bone, and heard from Mr. Olver that she had made a capital carcase, and had grazed in the fields last summer, but was a little lame. Mr. Olver had not examined the leg, and was curious to know how nature had filled up the cavity; he concurred with Mr. Olver in believing that so far as the ox tribe was concerned the specimen appeared unique. The portion of the leg was perfectly straight, there was no deformity in connection therewith; he received the specimen with a portion of the plaster of Paris bandage upon it. He had made a careful examination of the tendons and ligaments, they were in their natural position and seemed fused together by inflammatory growth. In reference to the inferior part of the metatarsal bone, it was perfectly reinstated and with the very slightest possible degree of deformity, which only appeared in a slight bulging due to original decay. Thought the specimen exceedingly interesting, especially as Mr. Olver had detailed the measures he adopted; it served to illustrate, in a striking manner, how, under favourable conditions, when parts are placed in a state of rest, they would become reinstated, notwithstanding that considerable portions of the bone may slough away. He had known several instances of broken bones of horses, but never saw anything like the present specimen. In answer to inquiries, the Chairman further said the animal was fed up fat for the butcher; the accident occurred about the 10th or 11th, had then been lame a fortnight; it did not show whether it was a tumour or a fracture. Five weeks after the event Mr. Olver removed the piece of bone shown, on February 17 he removed the bandage, on which date the animal, practically speaking, recovered. In four months the bone was restored; the animal was killed only recently, March 22, and he (Chairman) received it to-day, about eighteen months after the accident.

Mr. J. MOORE doubted if one of the small bones originally came off the leg.

The CHAIRMAN said the detached piece and metatarsal were just as received by him; the latter had skin on, and a scar on the skin. The small bone was taken out five weeks after the accident. New-forming growths of bone increased very considerably, it had been six weeks altogether detached from the source of nutrition; the periosteum was removed from it, severed from the blood circulation, isolated from nutrition, dry and shrunk.

The SECRETARY said one could see the upper union.

Mr. SHAW observed there was ossifaction going on.

The CHAIRMAN said there was not the slightest doubt about the new bone, it bore every trace of having been fractured or having a tumour; he had stuffed the skin and hoof, it was cumbersome or would have brought it that evening.

The SECRETARY said he presumed they were aware that in removing diseased joints or other parts of bone in man it was very possible to have a very free use of the limb again from the growth of fresh bone that takes its place, he had witnessed an operation on a man where it was expected. In horse practice there was little opportunity of seeing how nature would recuperate the loss of bone, but in dog practice the advantages offered were great, and nine cases out of ten do well, in some the growth of bone was incredible, a horse might do even better than a dog if it would nurse its leg.

Mr. G. A. BANHAM asked how the plaster was usually applied.

Mr. HUNTING explained his method of applying it, and said he frequently used them; it was difficult to take them off. Seven or eight years since he had a heifer with a fractured metatarsal bone, the animal, which recovered, had had several calves since then.

Mr. PRICE had found a gutta-percha bandage better than the plaster of Paris one. Cases of fracture should be bound round with cotton wool or lint and then covered with gutta-percha, softened in hot water, right round the limb, it would then remain any length of time, and could be removed easily by laying it open with a knife. In a few days, if the limb swelled, a hot iron could be drawn round to expand the gutta-percha. He thought it a capital thing; it could be had any thickness, and applied better than any other bandage.

Mr. SHEATHER observed it was better to apply a little oil to one's hands, as one could get the gutta-percha on better.

Mr. A. BROAD then read a paper on "Glanders and Farcy," the discussion on which was adjourned to the next meeting.

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 444, *vol. X.*)

Now all this long string of supposed causes operating in the production of Glanders, is nothing more or less than mere hypothesis, destitute of a single fact to support it. Glanders is not, and cannot be, produced by anything save the glander contagium. It is a purely contagious disease, and owes its production only to its contagious principle. Not one or all of the causes combined will give rise to it, though they may favour its evolution when the contagium has been introduced. Among horses all my life, and for a quarter of a century in a position to watch the genesis of disease, such as falls to the lot of few veterinary surgeons, as a result of my experience and close study of this malady in particular, I firmly maintain that none of the causes popu-

larly supposed to develop Glanders will do so. It is mere theory to assert that they can, and the existence of such a theory constitutes a standing danger to the public interests; for as long as it is accepted, so long will the scourge prevail. It was the existence of a similar theory which kept zymotic Pleuro-pneumonia and Foot-and-mouth disease for forty years devastating the country, and it is high time it was abandoned with regard to Glanders. The vitiated, decomposing, or degenerated material theory, the degraded constituent notion, is baseless. Glanders is only produced from Glanders, and nothing else. A soliped will not have the disease unless he is infected with it; and the maladies or morbid conditions which are said to develop it, I have always found to be only indications of the disease itself. In those parts of the world to which glandered horses have not been carried, it is totally unknown, though we find in these countries all the causes enumerated as capable of producing it. Take Australia and New Zealand, for example. Glanders has never been witnessed there, and yet horses are exposed to all the influences to which they are subjected in glander-haunted countries, such as our own; indeed, these influences are more pronounced, perhaps, there than here. I have made particular inquiries among friends at the Antipodes who are in a position to know, and they all assure me that, no matter how severely horses are worked, or how much they may be crowded in foul stables, or badly fed, this disease never appears, not even as a sequel of other disorders.

During the war in Mexico, the French army horses were exposed to terrible fatigue and privation, very many perishing, and yet Glanders did not appear. Yet the disease was not unknown in Mexico, for at Vera Cruz in 1847 it was seen there for the first time. It appeared among mules and horses placed in stables which, a few months before, had been occupied by some squadrons of United States cavalry during the war between the two countries. As is well known, Glanders is a very common disease in the United States, and no doubt the Union cavalry horses carried the infection with them. The French veterinarians found in Mexico all the causes which in Europe are said to develop Glanders, but no Glanders occurred among the horses under their care.

Crowding on board ship is said to produce Glanders, and especially when the ventilation is bad or defective. A favourite illustration in proof of the spontaneous development of Glanders on board ship is that afforded by the expedition to Quiberon. The cavalry horses had not been long on board the transports before it was necessary to close the hatchways during stormy weather, and after they were disembarked the disease broke out among them. But it must be remembered that in those days few stables were free from Glanders, and its prevalence among army horses was very great. It is therefore more than probable that infected horses were put on board these ships, and that the close confinement and foul air not only developed it sooner, but accelerated its spread among the other horses.

At one time I was a believer in this ship-board genesis of Glanders, but on reviewing the facts relating to the outbreaks which came under my own immediate observation, I am now satisfied the infection had been conveyed on board.

For many years a very extensive trade in horses has been carried on between Australia and India—the Indian remount establishment drawing largely upon the resources of the first-named country. The voyage is a very long and heavy one, and sometimes—what from storms, bad ventilation, and other causes—the mortality is large; but there being no Glanders among the horses when embarked, no Glanders is developed during the voyage, nor yet afterwards, unless they come in contact with diseased horses.

The recent campaign in Zululand furnishes us with the same kind of

evidence. A very large number of horses were sent from this country to Natal—perhaps the longest sea voyage ever made by troop horses. There being no Glanders among the horses of the British army, these animals were embarked free from infection. One ship, the *Borussia*, since lost, encountered fearful weather in the Channel and the Bay of Biscay. The ship was badly adapted for the duty, and some of the hatches (those not boarded up above the deck), and all the ports had to be closed, while she tossed about in the gale, with huge seas breaking over her. For four days the weather was terrible, and when it is considered that each horse had only about 320 cubic feet, the condition of the animals may be imagined, especially as the voyage was partly in the tropics. Yet neither in this instance, nor yet in any of the others, was Glanders produced.

If we look at Glanders from a pathological point of view, we shall find that unless we are ready to make admissions which are entirely opposed by facts, we cannot believe in its spontaneous development. The malady to which it is most closely allied, perhaps, is human Syphilis. Yet will any one assert that this can be spontaneously developed? Will any amount of uncleanliness, overcrowding, bad ventilation, disintegrated tissue, or polyuria, produce this horrible disorder? Go to any medical man, show him a hard or Hunterian chancre, and tell him it came of itself. What would his answer be? And what should ours be with regard to the maladies I have specified? I leave you to judge. It must ever be borne in mind that so long as we consider them capable of spontaneous development, so long will they be with us, harassing and destroying. It is only when we really believe them to be solely dependent upon their contagious principles for their existence, and act accordingly, that we can control them. Accept the doctrine that they cannot be regenerated when once destroyed, and that their destruction is as possible as that of injurious plants or animals, and we need not be troubled with them for long. Destroy the germs which produce these diseases, and you have for ever rid the world of them. This is a grand result to have attained, even theoretically: practically, it is quite capable of achievement. Sanitary science indicates the course to be pursued. It is for enlightened Governments to act upon those indications, and for veterinarians to carry out the necessary measures faithfully and energetically, until germ-producing diseases shall no longer afflict the animal world and rob mankind of pleasure and profit—(applause).

Principal WALLEY thought all present would agree in the main with what Mr. Fleming had said with reference to contagious diseases, though some of his conclusions might be dissented from. Mr. Fleming acknowledged that at one time he believed certain diseases could be generated *de novo*. So it was with him (Principal Walley), and to some extent he retained that belief, notwithstanding the arguments of his friend Mr. Fleming. Pleuro-pneumonia and Foot-and-mouth disease they might say were not spontaneously produced, but in Splenic Apoplexy, for example, they found a disease which originated under such circumstances, that it was impossible to trace its connection to pre-existing disease. It broke out in districts far removed from the seat of the disease, and under special circumstances of feeding—and sometimes of feeding alone—which the "contagion" theory could not account for, and which seemed to indicate that an alteration of the system of feeding would have obviated the disease. Another example militating against the "contagion" theory was the outbreak of Gonorrhea in cattle, which often appeared among cattle where no trace of the disease formerly existed, and where there was no proof that the animals had been in contact with infected sorts. The majority of stock-breeders, as they were aware, kept bulls specially set apart for their cows; and they were for the most part, he believed, entirely used for service in the owners' herd. Yet every now and

again they heard of outbreaks of this kind among these cows. They could not say there was a specific virus obtained from the progenitor, for it frequently broke out in herds under such circumstances as that no argument could induce him to believe that it had not generated spontaneously. He thought it was going a step too far, and indeed begging the question, to ask them to suppose that the germs of such diseases as Gonorrhea and Splenic Apoplexy had been preserved and handed down from generation to generation. Still in the majority of cases he believed the disease was due to contagious generation. If, as had been said, the first germs were the evidences of a higher than merely human power, then it must be admitted that the same power existed still, and spontaneous generation need not therefore be deemed impossible—(applause).

Mr. HUNTING, London, supported *in toto* the views of Mr. Fleming, and as a pupil of Professor Gamgee, contended that contagious diseases could be stamped out by proper sanitary measures. In support of the non-spontaneity theory, he mentioned that prior to 1750 Distemper in dogs did not exist in this country, and was traceable to Peru, whence it came to Britain *via* Spain and France.

Mr. ROBERTSON, Kelso, expressed their indebtedness to Mr. Fleming for his visit. With the general tenor of the excellent paper just read he agreed. On particular points Mr. Fleming had thrown a firebrand into the camp of veterinary surgeons. Especially in regard to Glanders, he agreed with the paper, though his own experience was not so extensive as that of some who had extended experience in large cities and centres. He suspected, however, that when they came to put their finger on the *locale* of a particular organism, they would find that Glanders originated from Glanders. For the germ theory he thought there was a preponderating weight of evidence, though as to whether the organisms were the entity of disease or merely the carriers there might be doubts. He proposed a hearty vote of thanks to Mr. Fleming.

Principal WALLEY seconded the vote, which was carried with acclamation.

Mr. FLEMING, in reply, thanked the meeting for the kind reception accorded to his paper. He knew of no subject of greater importance, or more likely to elicit thought and discussion. They were in a transition state in regard to the doctrines of contagion, and it was well that the profession should keep itself alive to every improvement made. Every step made in the way of progress concerned very materially the national health and wealth. Contagious maladies had been a source of national disaster, and, to some extent, of national discredit, as they had been rather remiss in dealing with them. From neglect of opportunities which should have been seized, the country had already suffered largely. In selecting the subject of his paper he had in view what concerned the national welfare, and to raise a discussion on points which were of great public importance.

On the motion of Professor Walley a vote of thanks was accorded to Mr. Borthwick for presiding ; and the meeting then terminated.

JOHN MCFADYEAN, *Secretary.*

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE sixty-third quarterly meeting of this Association was held at the Medical Institute, Hope Street, on the 14th of May, 1880. C. W. Elane, Esq., President, in the chair. Mr. R. C. Edwards, of Chester, was nominated by Mr. Whittle, Mr. Kitchin, Liverpool, by Mr. Lloyd, and Mr. Stone-Walken, by Mr. Morgan, for election as members of this Association. A letter was read from the Secretary (Mr. D. Hutcheon), tendering his resignation, in consequence

of having received an appointment under Government at the Cape of Good Hope. The President on behalf of the Society wrote in reply, accepting his resignation and expressing regret at the loss of his valuable services, and wishing him every success in his new undertaking.

It was proposed by Mr. Greaves, seconded by Mr. Reynolds, and carried unanimously that Mr. Wm. Leather be appointed Honorary Secretary in place of Mr. Hutcheon. The President took the opportunity of congratulating the members on the success of their candidate, Professor Brown, being re-elected a member of the Council of the R.C.V.S. It was resolved "That the members of this Association view with pleasure and satisfaction the steps that have been taken by the Council of the R.C.V.S. to obtain a Penal Clause, and this Association will gladly render the Council every assistance possible (pecuniary, if necessary), in order to obtain the desired clause."

Mr. Faulkner, Manchester, then read a paper on "The Use of the Trocar and Canula in cases of Flatulent Colic."

He said: In introducing a subject for discussion this evening I feel that one emanating from an older or more able member, would prove more interesting and instructive; but when requested by your energetic and industrious president, to lend a helping hand in the emergency, arising from Professor Axe's inability to be present, I could not decline, more especially when, as a junior member of this Association, I considered it to be my duty, to render what little assistance I could, as a small recognition of the much good and increased knowledge derived by myself, from time to time, when attending these meetings.

The use of the trocar and canula in cases of Flatulency or Tympany in horses, I am aware is open to controversy, and although the operation of puncturing the intestines has been known for a length of time, yet, at the present day, it has not come into general practice. Having ascertained its practical utility, I for that reason bring it before you, in order to elicit the opinions of those who may have given it a fair trial, and in the hope that others may be induced to gain the necessary confidence, to follow up and test for themselves the use of an instrument that, to me, has proved of incalculable service, notwithstanding that when I commenced its use I was aware that in many quarters it was looked upon with suspicion, and regarded as dangerous; but I now feel satisfied it can be performed with impunity, when properly done there is no danger of injuring any vital organs.

Some six years have elapsed since I first used the trocar and canula in cases of Flatulency, during which time, I have had every facility for thoroughly testing the operation, and as a result have come to regard it as a remedy invariably successful when performed in time, when every other known means have failed, being capable of relieving the suffering of our patients, and restoring to health the animal placed under our care. During this time I must have operated on over thirty cases, and never in a single instance has it (viz., the operation) been productive of fatal or dangerous results; rarely with anything untoward.

Previous to my adoption of this practice, it had frequently been my misfortune to see valuable animals suffering great pain, excessively distended in their abdomens with gas, or Tympanitic-breathing hurried and difficult. Surface of the body bedued with cold perspiration, stupified at times, at others almost delerious, pulse rapid and feeble accompanied with a whole train of death-like symptoms, which in spite of a speedy application of the best known remedies would die, and a post mortem examination reveal a lesion of the diaphragm, stomach or intestines, and in some cases an entire absence of any lesion, death being brought about by blood poisoning from absorption of noxious gases or Asphyxia. In such cases I have attended for hours, exerted myself to the utmost, but unsuccessfully, have felt powerless, and distressed

in consequence of my inability to relieve the suffering patient; hence, I came to the conclusion that a new departure was needed, and as every fresh innovation is usually eyed suspiciously by unprofessional and some professional people I for a time practised in secret.

I will now with your permission deal with the subject more definitely under the following heads, viz :—

1st. The cases to be operated upon ; 2nd. The trocar and canula to be used ; 3rd. Mode of operation—part operated upon and why ; 4th. The result.

1st. Whenever called to an animal presenting *considerable* distention of the abdomen, from accumulation of gas in the intestines—suffering abdominal pain and otherwise urgent symptoms, introduce the trocar and canula at once, do not wait till you have great prostration, which affords frequently immediate relief, rendering further treatment often unnecessary ; but I always administer an Aloetic ball on Ol. Lini with turps, thereby stimulating the bowels to remove the cause of the Flatulency.

In other cases, the Tympany may not be excessive, with protracted abdominal pain, almost continuous ; here you may give exit to the gas with considerable benefit to your patient in addition to your other treatment. I do not introduce the trocar and canula unless it be an urgent or protracted case without first applying the usual remedies.

2nd. The instrument I use is six inches in length, quarter-inch in diameter, made by Messrs. Burgess, Willows and Francis, London. Its length enables it to enter the bowels in extreme or slight distention. The others I have here for your inspection are in my opinion extreme in being too short and too long, the small one in some cases will not reach the bowel, the other will on account of its length pass into the ingesta and become blocked.

3rd. Invariably the right side is the most suitable from its prominency. I have the animal bridled, placed alongside the wall or partition, and if of a vicious nature a foot held up. I then make an incision quarter-inch in length in the space mid-way between the external angle of the ilium, the transverse processes of the lumbar vertebræ and the last rib, viz., the right hypochondria region.

The trocar and canula being then thrust in slightly downward and forward, enters the cæcum ; the trocar is then withdrawn, giving exit to the gas, which you can hear rushing through the canula. If the latter becomes blocked it is necessary to reinsert the trocar. After the gas ceases to escape the canula may be removed. My reason for operating in this region is that you enter the cæcum—a bowel invariably containing much gas—under these conditions, and here also you have the termination of the ilium and commencement of the colon, so that under favourable circumstances one puncture may possibly relieve the pressure in the three intestines.

In some cases the operation on the right side does not entirely remove the distention—which is evident by a fulness on the left side ; you may here introduce your instrument on the left side, which enters the single colon, liberating gas, but not to the same extent as on the right side. The puncture may also be repeated on the right side if necessary. As a result of the operation you perceive a sensible diminution in the size of the parts, the animal is afforded in severe cases often instantaneous and permanent relief, frequently evidenced by an expressive sigh and favourable symptoms. In those other cases not of an extreme nature, the liberation of gas assists in promoting a favourable issue.

In all cases I am of opinion that the removal of gas, when distending the intestines to any great extent, is productive of good, stimulating the return of their peristaltic action often preventing lesions and death. In Volvulus, under certain conditions I am also inclined to think it may possibly be of

service, but at the present time have no decided data. There need be no hesitation in operating, nothing more serious having arisen with me than inflammatory action, and small abscess of the external parts operated upon, subsiding without further trouble with mild treatment. The parts operated upon, as a rule need no after treatment, usually healing without requiring any attention. Horses killed immediately after the operation—the part punctured in the bowel bears little trace, having become contracted and closed after removal of the canula; others killed some days afterwards showed no signs of inflammatory action.

If your patience is not already overtaxed or your interest wearied, I should like to refer to several cases bearing on the subject.

Case 1.—Black draught mare, five years old. Called to her about six a.m., suffering from abdominal pain, and with flatulency which had existed several hours. Pulse small, fifty-six. Treatment usual in such cases was adopted, and successfully for a time. Some three hours elapsed, when she again became restless, and rapidly Tympanitic, perspiring freely. Respiration short and catching. In continual deadly pain and distress. Pulse barely perceptible. It was quite evident nature could not bear it much longer. In my absence elsewhere my partner, Mr. Greaves, was attending, and under the urgency of the symptoms, introduced the trochar and canula, liberating a considerable quantity of gas, the exit of which afforded immediate relief. The mare progressing favourably without further treatment.

Case 2.—Grey draught mare, eight years old. In April, 1879, I attended this mare. She had been in abdominal pain for several hours previous to my being called late at night. She had, however, had suitable medicine administered without relief. When seen she was in pain. Pulse small and feeble, seventy-two, slightly Tympanitic, lying with great care, leaning to the wall, etc. External and internal remedies were adopted, and when again seen in two hours, all the symptoms were aggravated, more swollen, and distressed, cold, clammy sweats, etc. Pulse barely perceptible, pain continuous, countenance haggard, mouth dirty. I at once introduced the trochar and canula, after which she stood as if stupified for a length of time. The pain subsided and the mare did well without further treatment. I again attended this mare a fortnight ago, she had been seized with abdominal pains about four a.m., and although she had every attention and all that treatment could do, she did not get permanent relief from pain under twenty-four hours. The Tympany here was not excessive, but considerable; she was punctured on the right and left sides, each time with considerable benefit, assisting, I am fully persuaded, in effecting her entire recovery, which at one time appeared exceedingly doubtful; her pulse being 120, and barely perceptible, although she was then standing tranquil.

Case 3.—An aged brown larry horse. This horse I attended late at night; he had been in pain several hours, and the usual remedies applied. He was in much pain, of a dull character, sweating and much swollen, breathing short, catching, and difficult, with a grunt. As I had a poor opinion of his vital powers I at once punctured on the right side. After which in consequence of there being considerable distention on the left I operated there also. Each time gas escaped freely, after which the pain subsided and he stood as if dazed. The severe symptoms gradually subsiding, further treatment not required, he entirely recovered.

Case 4.—A valuable grey larry mare. This mare was seized with pain in the bowels in the early morning, a colic draught was administered and the pain subsided. Afterwards it recurred, the pulse became accelerated, small and feeble, with every appearance of serious case, the pain was almost continuous for five hours, her countenance haggard. As there was now considerable Tympany, the case evidently getting desperate, my partner,

Mr. Greaves, punctured her on the right side, liberating a considerable quantity of gas, after which the pain at once subsided. For several days afterwards her pulse stood at seventy-two, with elevated temperature, although she was lively, free from abdominal pain and feeding well; ultimately it was found that there was considerable inflam about the punctured parts (external) which were much swollen. This swelling was lanced, a little pus liberated the muscles having a cartilaginous character in their internal parts. This inflammatory action rapidly subsided; the mare now bears no trace of it, is working and doing well.

Having I think exhausted, so far as I am able, this subject, I trust my remarks may be taken in the spirit they are offered, that is, to the benefit of the suffering animals placed in our care, ourselves and clients. Thanking you for your kind attention, I, in conclusion, would state that what I claim for the operation of puncturing the intestines is its power of removing flatulency when every other means has failed, and in virtue of this power preventing those lesions and other unfavourable issues arising from excessive distention of the stomach and bowels with gas. Do not imagine for one moment my contention is, that this operation will prevent lesion of the diaphragm, stomach, and bowels under every circumstance, for these do and will arise without Tympany; but what I say is, that by its judicious use you can save many lives which you would otherwise lose. I now close, desirous of eliciting your opinions and of affording any further information that you may wish.

An animated and very interesting discussion followed the reading of the paper, in which Messrs. Greaves, Dacre, Gibson, P. Taylor, Hopkin, Welsley, Whittle, Dr. Greenway, and Russel, took part.

A vote of thanks having been passed to Mr. Faulkner and the President, the meeting terminated. WILLIAM LEATHER, *Hon Sec.*

WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 433, *vol. X.*)

PROFESSOR MCCALL offered the following remarks upon "Stricture, or 'Hour-glass' Contraction of the Stomach of the Horse."

With stricture of the œsophagus veterinarians have for long been intimately familiar, as also with various abnormal conditions preventing the free passage of food into and out of the stomach; but with the form and site of stricture to which I am about to refer it is otherwise, and, indeed, it is highly probable that it has to be described for the first time. As it is my desire to appropriate the support which this case gives to my ideas upon the subject of vomition in the horse, I shall, at the outset, refer to a few of the anatomical peculiarities of the œsophagus and stomach of the equine species.

Œsophagus.

The œsophagus is composed of muscular tissue and mucous membrane. The former is arranged in two layers: the superficial fibres run in a longitudinal, the deep in a spiral and circular direction. A little anterior to the point where the œsophagus terminates in the stomach, or rather, is formed into the anterior half of the organ (for I think there can be no doubt as to the anterior or left half of the stomach of the horse being a continuation and a dilatation of the œsophagus), the muscular fibres become increased in number and thickness, and the tube itself *considerably narrowed in its calibre.* This narrowing at the cardiac end is so marked that the loose folds of mucous membrane in the non-dilated or quiescent state of the tube, fill it to repletion, and, moreover, to the extent that *neither fluid nor solid can*

enter from the stomach into the œsophagus. If, for example, we introduce —as I have repeatedly done—the nozzle of a water-pipe into the œsophagus, the stream of water will wash out the contents of the stomach into the duodenum; but when we reverse the order of procedure—that is, insert the nozzle into the duodenum—neither liquids nor solids can be forced into the œsophagus. In short, if we tie the pipe within the duodenum, the pressure will rupture the walls of the stomach, and yet not a drop of liquid has forced an entrance through the cardiac orifice into the œsophagus. In all other of our domestic animals, and in the human subject, the œsophagus is as wide, if not *wider*, at its *cardiac extremity* as elsewhere, distinctly *funnel-shaped*, and the contents of the stomach can be washed into the œsophagus, or *vice versâ*, as desired.

Stomach.

The stomach of the horse is a single organ, but, at the same time, it might be affirmed with equal truth that this animal has two stomachs, as that the ox has four. Veterinarians are familiar with the fact that internally the one half of the mucous membrane of the organ differs from the other, that the left half does not secrete gastric juice; beyond this little more has been recorded. If we carefully dissect and trace out the arrangement of its muscular and other structures, several important additions reveal themselves. When we distend the walls of the stomach with water or air, and ligature the cardiac and pyloric orifices, we observe that the organ is *constricted* in the *middle*, divided into two compartments, and the line of cleavage almost corresponds to the points where the cuticular and villous portions of the mucous membrane blend with each other.

In some stomachs this line of division is very marked; in all it exists and divides the stomach into a left and right *cul de sac*, or cardiac and pyloric fundi. This division of the stomach into two parts results from a difference being observed in the distribution of the muscular fibres forming its walls, and is the reason for the statement made, that the left or cardiac portion of the stomach is a continuation of the œsophagus and nothing more. Now, what is the arrangement? If we boil a stomach, macerate another, and have at the same time a fresh stomach at command, with care we make out that the muscular tissue is arranged in three layers, or planes, as most accurately described in Chauveau's "Anatomy," and to which I refer those members who may desire to study the subject in detail.

The superficial plane is a continuation of the *longitudinal* fibres of the œsophagus, or, if you prefer it, they are continuous with it. This layer more or less envelopes the whole organ, and is *thickest upon the cardiac portion.* In the middle layer, the fibres run in a circular direction, and spread over all the stomach, and are thickest around the pylorus to form the sphincter. The deep layer is by far the *thickest* of the three, and is principally *concerned in forming the cardiac portion.* The structure and distribution of these muscular fibres, and their lacing and interlacing, explains why the stomach is, and must be, constricted in the centre; how the walls of the cardiac compartment are thicker than those of the pyloric fundus, and distinctly points to the conclusion that *considerable more muscular power* is needed to press or propel the food through the cardiac orifice and along the left than the right *cul de sac.* In support of the inference which I have drawn from the study of the arrangement of the fibres of the organ, I now produce the stomach of a horse, which, as you will observe, is divided into two distinct compartments in the line of division to which I have just referred. The case being unique in many respects to me, I have consulted all the literature which is to be found in veterinary works on diseases of the stomach, and upon which I could place my hands, but nothing akin to this

stomach has been referred to. In human medicine, as an abnormality, hour-glass contraction of the stomach has been recorded, and apparently I would be justified in classing this as "hour-glass contraction" of the stomach of the horse; but be this as it may, I prefer speaking of it as *stricture of the stomach in the median line.*

The following is the history of the case :—

At the date of the animal's death he was nine or ten years of age, had been in the possession of his owners for upwards of three years, and was employed drawing wood. For the first eighteen months or so he did well, and to all appearance was a sound, healthy animal. About eighteen months prior to his being slaughtered, Mr. Mitchell, M.R.C.V.S., Cranstonhill, was desired to pay the animal a visit. Upon that occasion he found the horse presenting symptoms of Colic, with attempts to vomit, but which were ineffectual, inasmuch as food did not make its appearance. Fancying a pin or some body might be lodged about the base of the tongue or pharynx, Mr. Mitchell explored the parts, but failed in discovering a cause for the unusual symptoms of vomiting. Medicinal agents were administered, and in due course the animal got well. About a month after this, Mr. Mitchell was again desired to attend the horse, and upon this occasion he found his patient vomiting food by the mouth and nostrils. The food had a bad smell, and in the act of vomiting the abdominal muscles were powerfully contracted, the neck arched, and the head drawn towards the chest. Under treatment the animal again recovered, but at irregular periods of time he had renewed attacks of abdominal pain with vomiting of food. Gradually he fell off in condition, lost spirits and appetite; the vomiting and emaciation becoming more pronounced he was, at Mr. Mitchell's desire, slaughtered.

Morbid Anatomy.

The stomach larger than usual, and upon its exterior presenting an appearance as if a ligature had been applied so as to divide it into two compartments in the median line, the line of division corresponding to the natural raphæ, to which I have referred at some length. A section of the wall of the cardiac half or compartment of the organ demonstrated enormous hypertrophy of the muscular fibres, but a similar section of the pyloric half demonstrated no increase of tissue. At a glance the conformation of the œsophagus as it, ends in the stomach, is observed to be abnormal. Instead of being narrower it is wider than at any other portion of its course, and is *funnel-shaped*, and not unlike the appearance presented by the œsophagus of the pig and dog, animals which are known to vomit with facility and without pain or nausea. Continuing our investigation we find that the line of constriction so pronounced upon the exterior of the organ corresponds to a hypertrophy of muscular tissue in an annular direction, and that hypertrophy is so great and complete as to divide the interior of the stomach into two distinct compartments communicating with each other through a circular orifice only six inches in circumference. The cardiac half is the larger of the two compartments, and its cuticular investment is deficient in irregular patches all over its surface, but ulcerative disease has not commenced.

Professor McCall promised to report further when he had completed his examination of the stomach.

Prof. WALLEY next introduced an instrument which may be called a "Compound Puncturator, Irrigator, Aspirator, and Drainer," and in doing so said :—

Some time ago I directed the attention of the members of the Scottish Metropolitan Association to the beneficial effects of deep and repeated puncturing of indurated glands and fibromata. The good to be derived

from the same operation in Orchitis, Mammitis, and Parotiditis is, I presume, well known to most of you.

Hitherto, the instrument employed by me for the purposes indicated has been a fine exploring needle, a suture wire director, or a narrow-bladed bistoury—the use of either of these instruments necessitating frequent introduction and withdrawal in order to accomplish the desired end.

While puncturing a fibroma in the *levator humerus* of a horse, one of my students who was assisting me (Mr. William Calvert), asked if an instrument could not be constructed for the purpose of inflicting several punctures simultaneously; my answer was in the affirmative, and on thinking the matter over I determined to utilize the same instrument for several other purposes. After a short correspondence with a London firm (Messrs. Evans and Wormull), I succeeded in conveying my ideas to them with sufficient clearness to enable them to manufacture the instrument which I now introduce to your notice. Before describing it, I must assume that you are all acquainted with the benefits to be derived from *irrigation* with stimulants of certain forms of growths; and with antiseptics of sloughing, erysipelatous and carbuncular tissues; as also, with the use of *drainers* (canulæ) for the dispersal of œdematous swellings.

The instrument consists of a brass rose, into which are fitted seven short tubular projections, these again being provided with seven (movable) tubular needles, each having three or four perforations, at short intervals, a little distance from the point.

By the use of small plugs, one only of these needles, or as many as may be desired, can be employed at once.

For the purpose of *puncturing*, the rose is fitted on to a large ebony handle, and for the purpose of *aspirating*, or of *irrigating*, on to a four-ounce brass syringe. When required to act as *drainers*, the needles may be introduced separately, and allowed to remain *in situ* as long as may be thought necessary. The syringe is also provided with a movable nozzle, so that it may be utilized as an ordinary syringe.

The instrument is not yet complete, as I intend to have it fitted with a much larger tubular needle, so as to admit of its being used for intravenous injection, or for aspirating the bladder of small animals, or superficial cysts of any kind. Further, a graduated piece of glass introduced into the side would be of great advantage, as would also several other nozzles of different sizes.

He then showed another instrument, which may be properly named "Walley's Compound Tubular Brace, with Surgical Bits," and in explaining its uses said:—In operating upon the rectum for fistulæ, abscesses, hæmorrhoids, etc., of large animals; in operations in the uterus, cervix, or os uteri, as for removal of tumours; in operations on the soft palate and posterior part of the mouth; and in embryotomy, I have sometimes felt much inconvenienced by not having a concealed instrument sufficiently large and powerful to be manipulated from the outside, without having to carry a small instrument into the cavities mentioned concealed in the hand.

Reasoning upon the matter, I resolved to attempt the construction of an instrument which might be utilized in a variety of ways.

I have here, then, a flattened tube, composed of German silver and brass, with a chequered ebony handle, the whole measuring eighteen inches long. The handle conceals a screw, and the tube a steel staff (the screw and staff being continuous), the former attached to and worked by a small brass wheel at the end of the handle, the latter being provided at its free extremity with a movable slot for the purpose of receiving any instrument which the operator may desire to use. Into the slot I can introduce a straight, probe-pointed Chassaignac, convex or round-pointed bistoury, a vulsellum forceps

a blunt and sharp-pointed hook, a saw, a hook knife, a seton needle, a wire or chain ecraseur, a spatula, trocar and canula, or any other instrument I choose. All the above-mentioned, with the exception of one or two, can, by the aid of the screw, be drawn into and concealed by the tube, and projected to any length required. If it is thought desirable the blades may be made much stronger; and further, I intend to have a short handle made, so as to utilize them—with drawing knives—in other ways.

I also introduce a small instrument for the pocket case, so constructed as to enable it to be used as an exploring needle, wire suture director, small trocar and canula, and milk syphon.

The last two instruments were manufactured by Mr. Tennant, Teviot Row, Edinburgh.

JAMES ANDERSON, *Secretary.*

DISTRIBUTION OF PRIZES TO THE STUDENTS OF THE DICK VETERINARY COLLEGE.

A MEETING was held in the Council Chamber, Edinburgh, on the afternoon of Wednesday, the 14th April, for the purpose of awarding the medals and certificates won during the past session by the students of the Dick Veterinary College. The Lord Provost occupied the chair, and in opening the proceedings said that the pleasure which he had in presiding on that occasion was enhanced by the fact that during the past session the progress made had been even more satisfactory than hitherto. There had been very keen competition among the students, and a high degree of excellence had been attained in the examinations. What was still more gratifying was that while for several years there had been a constant increase in the number of students attending the College, the number had been still further augmented during the past session, the actual number on the roll having been ninety-five. In announcing the prize-list his Lordship said he had great pleasure in naming a distinguished student, Mr. Wm. Ryan, who during his college course had gained no fewer than six medals. Another student who had distinguished himself was Mr. Wm. Calvert, who had gained three medals. The Lord Provost in presenting the medals and prizes to the successful students, expressed a hope that their future career might be marked by as much success as their college life.

Dr. ALEXANDER WOOD expressed his great satisfaction with the marked prosperity of the College, and announced that next session he himself would give a medal for a subject to be afterwards arranged. On the motion of Dr. Aitken, a vote of thanks was recorded to the Lord Provost for presiding.

The following is the prize-list:—

Chemistry.—Gold Medal, and Highland Society's Silver Medal—William Ryan.

Materia Medica.—Highland Society's Silver Medal—Joseph Donald.

Botany.—Highland Society's Silver Medal—William Ryan.

Anatomy.—Gold Medal, and Highland Society's Silver Medal—William Ryan.

Physiology.—Gold Medal and Highland Society's Silver Medal—William Ryan.

Councillor Waldie's Prize (case of instruments) for best practical examination of horses—William Calvert.

Veterinary Medicine and Surgery.—Gold Medal—Wm. Calvert. Highland Society's Silver Medal—Alex. Grey, jun.

Comparative Pathology.—Mr. Alex. Harris's Gold Medal—Wm. Calvert. Highland Society's Silver Medal—Joseph Donald.

Practical Examination of Horses.—Professor Baird's Prize—(case of instruments)—John Roberts.

Best General Examination.—Highland Society's Gold Medal—Wm. Calvert.

Amateur's Prizes.—Silver Medal—A. M'Walter. Certificate of Merit—H. Bell.

Veterinary Medical Association Prizes.—Silver Medal for best essay of session—Alex. Grey, jun. Certificate of Merit—Alex. H. Gentle.

Gold Medal awarded by the Highland and Agricultural Society for the best general examination; competition open to students of any college—Wm. Calvert.

NEW VETERINARY COLLEGE, EDINBURGH.

Prize List.

THE distribution of prizes to the successful students took place on April 16th, at the College. Dr. Young, Professor of Physiology, presided. He congratulated the students upon the high degree of success attained by them during the session. All the examination papers which had come under his notice this year were, he was glad to say, above the average; there was not a single bad paper.

Professor WILLIAMS, Principal of the College, in distributing the prizes, said the last session had been a very successful one in every way. They had had the largest class that ever was in the city of Edinburgh. The number on the roll was 104 students, and the number of entrances fifty-seven. The work of the session had been carried on very satisfactorily, and the results of the examinations had come fully up to their expectations. The Principal then distributed the prizes as follows:—

The Highland Society's Gold Medal for the best practical examination, open to the competition of students from all the Scotch colleges, was awarded to Mr. Yorston, of Manchester; and the Society's Gold Medal for the best general examination was gained by Mr. Ingram, of Manchester.

The £20 Prize, given for the best middle examination by the Principal, was divided between Mr. Ingram and Mr. Sandeman, Kirriemuir, each receiving a cheque for £10.

The Horse Pathology Medals were won by Messrs. Nash, of Carperley, and Ingram, of Manchester; and Certificates of Merit were awarded to Messrs. Chalmers and Michaelis.

Cattle Pathology—Medal, Mr. Ingram; Certificates, Messrs. Nash, Richmond, Fraser, and Canty.

Anatomy—Medal, Mr. Woods, of Wigan; Certificates, Messrs. Graham and Leather, of Liverpool.

Physiology—Medal, Mr. Woods, Wigan; Certificates, Messrs. Graham and Leather.

Botany—Medal, Mr. Graham, Dumfries; Certificate, Mr. Leather, Liverpool.

Materia Medica—Medal, Mr. Woods; Certificate, Mr. Leather.

Chemistry—Medal, Mr. Horrocks, Manchester.

Educational Medals—Mathematics, Mr. King, Coventry; Languages, Mr. Bradshaw, Mauritius.

Medal for best collection of anatomical preparations—Mr. Fraser, Keith, Banff.

The Edinburgh Veterinary Medical Society's Medal for best essay on "The Preservation of the Horse's Foot"—Mr. Fraser; Certificate, Mr. Thompson, Aspatria.

COLUMBIA VETERINARY COLLEGE, NEW YORK.

THE Columbia Veterinary College held its commencement exercises on March 26th. The class of 1880 is the first class that has been graduated. The hall was filled by friends of the graduates. On the stage were grouped the Board of Trustees and the faculty of the College.

The degree of Doctor of Veterinary Science was conferred upon the following members of the senior class:—John Lindsay, Huntington, L.I.; Nathaniel Foote Thompson, New York city; John A. McLaughlin, Charles D. House, New York city; Manly Miles, and L. S. Hardin.

Certificates were awarded the following members of the junior class:—Mark L. Frey, New York city; Eli Judson Peck, New York city; William Soula, Providence, R.I.; John Campbell Wallace, New York city; Emil N. C. Suvall, Orange Valley, N.J.; John H. Dancer; F. J. Smith, Johnsonville, Tenn.; and Louis Marks. Manly Miles and L. S. Hardin were also given degrees for their efforts to advance veterinary science. The degrees were conferred upon the young gentlemen by Alexander Hadden, M.D., President of the Board of Trustees.

Professor Thomas H. Hawkins awarded prizes on behalf of the faculty to the following gentlemen:—The first prize, consisting of a gold medal, valued at 50 dollars, to John Lindsay, for passing the best general examination. Honourable mention in this connection was given Messrs. J. A. McLaughlin and N. F. Thompson. The second prize, a medal valued at 25 dollars, was awarded M. L. Frey, for general excellence in the junior examination. The anatomical prize, consisting of a case of surgeon's instruments, was given N. F. Thompson. A prize by Professor Hadden, for the best scientific showing, was awarded J. A. McLaughlin. The medical jurisprudence prize, was given John Lindsay, and the prize for the best essay on operations in the college was awarded to J. McLaughlin.

Army Veterinary Department.

Gazette, May 25th.

12th LANCERS.—Veterinary Surgeon F. Smith, from the Royal Artillery, to be Veterinary Surgeon, vice Wilson, transferred to the Veterinary Department.

VETERINARY DEPARTMENT.—Veterinary Surgeon J. E. Elphick has retired on temporary half-pay (May 2). The under-mentioned gentlemen to be Veterinary Surgeons on probation:—Henry Thomas William Mann and George Richard Griffith.

Gazette, June 8th.

VETERINARY DEPARTMENT.—Thomas Caldecott, gent., to be Veterinary Surgeon on probation.

Obituary.

THE decease is announced of Mr. Douglas Winton, of Enfield, who graduated in 1866; also of Mr. R. W. Murdoch, of Leeds, who became a member of the profession in 1868.

We have also to record the death of Dr. A. Swaine Taylor, F.R.S., the distinguished toxicologist, and professor of medical jurisprudence and chemistry in Guy's Hospital. Well known in the world of science as one of the foremost representatives in his chosen departments of knowledge, Dr. Taylor was equally well known to the veterinary profession in England as a most painstaking and efficient member of the examining board of the Royal College of Veterinary Surgeons.

Parliamentary Intelligence.

House of Commons.

GLANDERS AND FARCY.

IN reply to Colonel KINGSCOTE, Mr. MUNDELLA said the Veterinary Department were of opinion that the diseases of Glanders and Farcy had not increased of late years in the metropolis. The increase of the number of cases reported was believed to be due to the greater energy displayed by the local authorities since the passing of the Act, under which several prosecutions had been instituted. He should be happy to give a return on the subject if the hon. member would move for it.

Correspondence, etc.

ARMY VETERINARY SURGEONS IN INDIA.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—With your permission, I purpose submitting a few remarks on the above subject. I do so, as my attention has lately been drawn to a *contretemps* that has occurred between a commanding officer and his veterinary surgeon. It is lamentable that these things should crop up, as nothing tends to lower us so much in the eyes of the military public as these little misdoings, and which call forth the remark, "He's only a vet." Our present chief, Mr. Collins, has done very much, by selecting good men, towards removing the barrier that existed in many cases between combatant and veterinary officers; but still there is a great deal yet to accomplish. We know that no amount of skill and attainments will give a man that tact necessary in his dealings with brother officers. It is not professional ability *alone* that makes a man popular in the regiment to which he belongs or is attached. Young gentlemen are very prone to assert themselves often on matters with which they are not too well acquainted, and it is natural that men their seniors by many years should be disinclined to be dictated to by a youth of a trifle over twenty summers. The pit into which most of us fall is that of "suspicion." In matters professional the merest tyro can, of course, hold his own; but even in this there is a right and a wrong way of establishing our superiority. What matters it, if a man priding himself in his horse-knowledge should venture to give an opinion contrary to that expressed by his veterinary medical adviser? If Government property, the veterinary surgeon alone is responsible; if private property, he has the option of continuing his services or not. There are many cases I could quote wherein great discretion is essentially necessary—*e.g.*, a commanding officer may wish to get rid of a horse by including him in the next annual castings. No apparent reason can be adduced on medical grounds: the animal may be a bad doer; his conformation or mode of progression may be such that his appearance is not creditable to the good looks of the troop or battery. If not medically unfit, there is only one course open, *i.e.*, quietly decline the responsibility. Happily, the new General Order relative to this subject, whereby details of all medical cases have to be submitted to the inspecting veterinary surgeon, does away in a great measure with the annoyance.

Again, horses are cast and purchased by officers (including, I am sorry to say, veterinary surgeons), and afterwards win races. To say the least of it, this does not look well, as Government naturally supposes, if a horse can be trained to win races, he might have still been utilized for army purposes. Some very good horses are doubtless cast for unsteadiness in the ranks, and yet make first-rate hacks or "pig-stickers." Nevertheless, I warn all such intending

purchasers, especially in the profession, to avoid this cause for scandal. People, as a rule, are not over charitable, and a tale loses nothing by circulation. What may have been a very simple matter *in initio*, assumes a serious aspect by the time it has finished its rounds. Government was so impressed with this matter that a General Order was published prohibiting all officers purchasing horses cast from the regiment to which they belonged.

Private practice is occasionally a stumbling-block. Some make a point of exacting fees from outsiders for all advice, etc.; others ignore the system as entailing too much trouble. Disputes in the former case have arisen as to fees, which in some cases had to be decided by the interference of Government. All this is derogatory to us as a profession. The advocates for private practice—and they form the majority—proclaim that if their services are required they must be paid. True, if that is their line; but fees ought to be so regulated that they are not looked upon as extortionate. I admit that some may consider their time and services so valuable that fifty annas per visit may not be considered excessive. Their client, however, may think otherwise. Give advice by all means, as refusing to do so would tend to render us unpopular; but let the demands be in accordance with the work rendered. I have tried both ways, and have come to the conclusion that the game is not worth the candle. Government has passed an order entitling all staff-officers to veterinary attendance and medicine at the rate of two rupees per mensem, a fourth of which is claimed by it (Government) for medicines. This does away with a lot of cavilling.

Veterinary surgeons and their commanding officers are daily brought in contact, when matters relative to the welfare of the horses are or ought to be discussed. A zealous man is soon recognised by his commanding officer, and if this zeal is combined with a fair amount of ability, gentlemanly conduct and tact, no one in the regiment is more popular. It is true that some commanding officers are very officious, and consider themselves "embryo Moltkes." In this case, a little tact only is necessary to overcome their vanity. Of course there are cases in which a commanding officer is so obstructive that no amount of reasoning will bring him to book—he is determined to "sit on his vet." My advice in a case of this sort is to conduct yourself as behoves a gentleman; do your work well, and if he ignores all matters of advice you have a remedy; as an appeal to higher authority, with a statement of the case, supported by facts, will generally meet with justice. But let it be calmly done, no rushing into extremes, try every available means before making an enemy of your commanding officer. Youngsters are very fond of writing, and often receive a well-deserved rebuke for so doing. Five minutes' conversation will often dispel a hundred misconceptions.

A word or two on the position of veterinary surgeons generally. I have seen and heard it stated that we do not occupy that status which our position as officers entitles us to. This, I am bound to acknowledge, in some cases is correct; but wherein lies the fault? Not so much in the fact of our being veterinary surgeons—although this has something to do with it—but to our conduct and deportment. I have always found that every one made himself most agreeable to me, and I know others who have experienced the same courtesy, and that every social gathering was open to them and their wives. As a man makes his bed, so must he lie. I will not dictate what kind of bed, as it were, this should be, or I might become too personal.

It is often said that India is intolerable: so is every place to a man without a mind. I have no wish to sermonise, nor do I set myself up as a demi-god; but I may be pardoned when I state that even in this country—with its stifling heat, howling winds, and blinding dust-storms—a large amount of

self-culture may be indulged in. Society here becomes very narrow-minded each small community is so wrapped up in itself, that innovations are looked upon with distrust, except in large stations, where arrivals are keenly watched. And it is not too much to say that people set themselves up to gauge your abilities; and their estimate of these is naturally framed by your conversation and associates. If they find that you have a soul "above horses" and the like, and that you are an adept in matters of, say, political economy and its collateral branches, and that you can hold your own on most subjects in common life, then your opinion will be sought and your advice respected. There are a hundred ways of passing the long days in India profitably. No one, I presume, is so arrogant that he would say that he had nothing to learn in his profession. If his mind is easy on that point, and that the work rendered is equal to the pay (a theory I have heard broached), all I can say is, that he has mistaken his calling in life. If, on the contrary, his mind yearns for improvement, let him emulate the example set us by Mr. Fleming and others. Continental languages are, with perseverance, not so difficult to acquire. In them we have a source of interest not only fitting us as linguists, but adding to our store of knowledge both in and out of our profession. Again, why should we be led by the nose by the medical profession? Surely we have ability enough, although dormant, to strike out for ourselves. A great field is open to us here, and although little or no encouragement is given by Government, men stimulated by the advice of Mr. Collins are beginning to emerge from that lethargic state which hitherto has been our chief characteristic. Some, I allow, are endowed with more ability than others, but let those whom Providence has not so gifted remember that the "tortoise won the race." I recollect when at the school in which I was taught, my *hux ego fimeta viæ cum sim crimine vitæ*, a boy in my class was unable to scan his pentameter and hexameter verse. After several hours' mental labour, and sundry wanderings through the *gradus*, he gave it up, saying that no word could be found which would complete the verse. The head master looked at him and said, "Try again, I was a dull boy myself," and yet this *quondam* dull boy was master, in every detail, of six languages. It has often occurred to me what a pity it is that men with talent should lack application. There are excuses in India that do not apply to England. Men I have known personally had this desire for self-improvement, but could not, on account of climatic influences, bring sufficient energy to bear to carry out their wishes. This may have been due to a want of stimulus to increased exertion; for certainly nothing is held out to us, and if bull-dog pluck does not predominate, it is, I must confess, difficult to proceed with the vague hope that something may turn up trumps. To these I would suggest—inaugurate a system, and stick to it at all hazards. Writing under a *nom de plume*, I can afford to state, *sans réproche*, that even in the hottest of weather nothing could deter me from devoting several hours a day to good reading and writing; not that I feel I have done much, but still life has not been a burden to me. Others I am acquainted with have pursued the same course, and are ornaments to the profession.

I am sure, *dear Mr. Editor*, you will excuse this rambling epistle. My only desire is to promote the welfare of our profession generally, knowing you are one with me. I have especially addressed myself to those about to visit the "shining East" for the first time.

Some of us are doing good work, I am glad to read; and although your humble servant is so located that he is out of the running, as it were, yet he takes a lively interest in his professional *confrères*. I feel I cannot conclude without allusion to that beautiful Latin quotation—*Sapiens ipse fingit fortunam sibi*. Believe me, yours faithfully,

India. "PFERD."

PROMOTION—SELECTION *versus* SENIORITY.

To the Editor of the VETERINARY JOURNAL.

SIR,—Unless some organic change in the Army Veterinary Department be pending, the outlook is by no means encouraging. The Royal Warrant of 1859 may be said to have virtually expended itself in giving rank to a fortunate few—some half-dozen veterinary officers were elevated from the rank of lieutenant to that of major, and a corresponding few to that of captain. For years afterwards the only term that fitly describes the condition of promotion is, stagnation. Immutability became the order of the day, and no wonder, when it is remembered that side by side with the 1859 Warrant, was issued a document which proved on acquaintance no less potent than the Royal Warrant itself. By its agency the number of veterinary surgeons ranking with majors and captains was made to bear a certain relation to the strength of the department, and there being no outlet for the seniors above, a block became inevitable. The Warrant, therefore, which in itself was a just and good one, and only needed that its provisions should have been carried out in the spirit in which they were framed, was made to play quite a secondary part, and before the members of the department had fairly recovered from the unexpected blaze of light in which they found themselves, they were overtaken by an even greater darkness, and for a time underwent extinction.

Affairs went on in this way until the August of 1871, when the late Principal Veterinary Surgeon (probably with a view to relieving some of the pressure accumulating below, as also to retard the advent of what threatened to be a departmental crisis) brought in the fifty-five years' clause, by the action of which a portion of the fossil element was at any rate eliminated, and an impetus given to promotion. Another seven years brings us down to 1878 and its Warrant. Years of alternate expectancy and despondency were at last to be brought to an end, and the members of a long-neglected service were now to be transported to the regions of perpetual sunshine, with a barometer permanently wedged up to "set fair." I have no wish to trespass so far, either on your generosity or valuable space, or the patience of your readers, as would be entailed by even a brief recapitulation of the numerous criticisms which have appeared on the subject of the 1878 Warrant during the past two years. We know, as a matter of fact, that the Warrant of 1878 has failed to give satisfaction, and that its failure has been in no small measure due to its having aggravated, rather than remedied the rate of promotion throughout the department.

We are not the only service undergoing departmentalisation, and if we venture to draw comparisons between our own department and that of others, it is that we may understand aright the issues involved in the change, and by noting the success which attends the efforts of our neighbours, bring, if possible, the same tactics and results to the aid of our own affairs.

One marked point of difference between the veterinary and the departments surrounding it, lies in the fact that they are so constituted that whilst the administrative and other prize appointments are given by *selection*, yet a fair position and competency is assured to every member by *seniority* alone. The consequence is, that whilst there is every stimulus to zeal and excellence, there is at the same time a removal of those elements which convert our department, whenever an appointment lapses, into a veritable bear-garden. Competition in its most offensive form is set up, and never fails to leave a demoralising effect upon the body; jealousies, underhand transactions, and often unprofessional conduct are the immediate outcome of this state of things. Men reduced to desperate straits have little compunction as to how many go under in their efforts to save themselves. It is a great

pity for us that this question is generally viewed in its financial aspect by the War Office, for it really strikes at the very root of our social relations with one another, and introduces enmity where friendship alone should be possible. Our want of unity is proverbial, and has more than once paralysed the efforts of those who have sought to improve our position.

It seems to be a well-recognised principle which pertains to all departments of the army, that seniority alone shall not give priority of claim to certain appointments. As regards our own department, this principle was acted upon in the appointment of its present head, as well as in the selection of inspectors and others to fill special appointments. In such cases, were seniority alone to govern, incapacity would not be long in making its way to office, and probably become the ruling element in more than one department in the service.

If politics are a practical science (and we have Mr. Lowe's assurance that they are), there is no reason why our affairs should be less so. We can *never even hope* to increase the number of inspecting appointments to meet all the requirements of deserving claimants; for we are already richer in these appointments than any other department—that is to say, taking the estimates of 1880-81, we have one administrative to every 12 executive officers, whilst in the medical they have but one to about 22. It is therefore evident that if promotion is to reach many who have performed good, though obscure services, a *via media* must be discovered by which they may at least secure a competency similar to those obtainable in other departments.

The prospect of securing inspecting appointments by the large majority of the department is so remote as not to afford even a subject of interest. The only point on which we are all interested is in regard to the *personnel* occupying the grade from time to time. This can never be a matter of indifference to those who have to serve under the direction of the inspectors, and it is a subject for congratulation that of late the grade is emerging from mediocrity and taking a better position. It numbers a larger proportion of Fellows of the College in its ranks than formerly; this in itself is very satisfactory, and affords some guarantee that the individuals have kept level with the times, and will not bring to their work obsolete and exploded theories half a century old. If the authorities at the War Office insist that the professional servants of the State shall be supervised in their labours, the subordinates surely may with some reason beg that the overseers so appointed shall give some evidence of high standing in the profession, apart from length of service in the army. This status can never be acquired by passing the qualifying examinations *within* the service, and it surely cannot be asking too much of the aspirants for these prize appointments that they should inscribe their names amongst the Fellows of the Royal College of Veterinary Surgeons. The inspecting grade was never a popular one, and if it is to be perpetuated, it can only become so by its bringing within its fold intelligence, learning, and culture, not inferior to that met with in the subordinate grades.

I am, sir, your obedient servant,

"M.R.C.V.S."

ARMY AND CIVILIAN VETERINARY SURGEONS.

To the Editor of the VETERINARY JOURNAL.

SIR,—Army veterinary surgeons have done very excellent service of late years as zealous reformers of the profession, and at our association meetings, and in your valuable Journal, are accustomed to speak and write freely on professional politics.

May a civil practitioner offer them some advice in return, and mention

what is considered not only a great grievance to civil veterinary surgeons, but a wrong inflicted on the army veterinary surgeons by themselves?

We see some of them, happily becoming fewer every year, dancing attendance on the officers of their regiments, buying private horses all over the country; in fact, so acting that some people are almost inclined to be uncharitable enough to look upon them as a kind of dealer, stud groom, and veterinary surgeon all combined in one anatomy. These gentlemen do infinite harm to their civilian brother, because they wrongfully trespass on his domain, and sometimes the owner of the horse they happen to be looking at will seize the opportunity to get a *free* opinion from them about all his ailing stock.

That army veterinary surgeons do harm to their own body, and injure their own *status* by letting themselves be "made use of" as above described, must be apparent to all observers. How often we are annoyed by hearing a military officer—in some cases we might say a military boy—say, "Well, I'll send or bring our regimental 'vet.' to examine him;" as if he could send him anywhere like a lackey!

Now, to speak plainly, men of the world seldom give credit to people for working hard or putting themselves to inconvenience for nothing, and sometimes it is disagreeable to hear remarks such as, "Oh, he's getting something for all this;" "he's not taking all this trouble for nothing;" remarks, doubtless without foundation, but exceedingly annoying to listen to, and which so long as cause is given will be made.

I am informed that all this is no part of a veterinary surgeon's duty, but is merely kindness so far as he is concerned; but it is surprising that even a few army veterinary surgeons should, through mistaken kindness, expose themselves to such sayings, and astonishing that in their position they do not cultivate greater independence. I have often heard it said that want of independent spirit and mutual support are the great failings and enemies of army veterinary surgeons.

Perhaps some of your military correspondents will give their opinions on this subject.

Yours truly,

13th June, 1880. "A Civil Veterinary Surgeon."

VOLKMANN'S INSTRUMENT.

To the Editor of the Veterinary Journal.

Sir,—I observe a tendency on the part of secretaries of Veterinary Medical Associations to condense their reports as much as possible. This in itself is very often both desirable and necessary, but I think a wise discretion is not always displayed in selecting those parts of the proceedings which are to receive chief prominence.

In the report of the recent meeting of the North of Ireland Veterinary Medical Society, it is mentioned that "Professor Williams exhibited Volkmann's instrument, which he specially advocated as being efficacious in the surgical treatment of splint;" no description, however, is given of the instrument, or of its mode of application. Now it seems to me that if the instrument be as efficacious a remedy for splint—which occasionally is one of the most troublesome lamenesses the veterinary surgeon has to deal with—as was stated, its exhibition was the most important business transacted at the meeting, and deserves something more than mere mention.

Surely matter of this kind would be more interesting to the majority of your readers than Mr. Greaves' tedious dissertation on Veterinary Medical politics.

I am, sir, yours faithfully,

June 4th, 1880. L. E. D.

OUR SOCIAL POSITION.

To the Editor of the VETERINARY JOURNAL.

SIR,—The assertion of "Ubique," that the social status of veterinary surgeons is much lower than it might be, and that we have, in a great measure, ourselves to thank for it, is unfortunately but too true. Nevertheless, we must all admit that every year brings with it some progress, some step gained in the right direction; and those who complain of our backward state have only to look to the past, and compare it with the present, to be constrained to acknowledge that the veterinary profession, yet young, has achieved a grand success. As its numbers increase "farriers" decrease. We may have among us, as indeed every profession has, men who do not come up to the high standard we could desire—men who prefer to win their name by stable and pocket influence, who undersell their brethren, and prefer the interested grasp of the groom's silver-itching hand to the appreciation, if not so apparently cordial, of the patron—men who go to Council, not for the active part they take there, but from the influence of friends. These are evils (if not necessary ones) which we shall ever possibly have to grin and abide by.

"Like master like man," is an old and true proverb. Not within the college walls does the student learn the "tipping" and "touting" system; not from the professors does he derive his ideas of low fees, and the necessity for treading on his brother's corns to extend his own practice; nor yet from the assemblage gathered at the school does he altogether become impressed with the importance of a loud attire, sporting jewellery, and a round "pot hat" fixed on one side of his cranium. But from previous associations is laid the foundation for future professional conduct and bearing. He follows most frequently the customs of his tutor, both professional and non-professional. Concerning the latter, to reform such persons is no light task; and to illustrate them by name as millstones round our necks and monuments of disgrace to the profession, would be looked upon by those thin-skinned (?) gentlemen as profane, and taken advantage of in the law-courts.

That "prevention is better than cure" applies here, and our three strongholds lie in—(1) The requirement of stricter educational acquirements when entering college, whereby a better class of men would be admitted; (2) The support of veterinary medical associations; (3) The right use of the power given to us of returning members of Council.

1stly. That the educational standard has been of late placed on a better footing is true; yet that it is not so high as it should be, and thereby forms a loophole for the entrance of illiterate and ill-mannered men, is undeniable.

2ndly. Regarding veterinary medical associations, these are most valuable. In the course of each year, as we gather together for purposes of science, mutual friendship, and interchange of thoughts, subjects bearing more or less on the art we practise are ably dealt with by those among us who kindly undertake the position of essayist or lecturer.

There is one subject, however, in this age of progress which has been allowed, except through a letter now and then in our periodicals, to slumber too long, and yet it is one which should reign paramount with us—one which every member should make a matter of deep consideration; and one of the objects of veterinary medical associations being to uphold and maintain the dignity of the profession, I venture to introduce it here—viz., professional etiquette. The heart-burnings, bitterness, and forced amiability one too often sees between veterinary surgeons, could in nearly every instance, if investigated, be traced to some breach, or supposed breach, of professional etiquette. Not always intentional is the act committed, but very often we must confess it is so.

One false step, and the descent is rapid. The man who buys his reputation—who commences his career with (to use a vulgar, but common expression) his nose in the groom's pocket, is sure sooner or later to find the just reward to which he is entitled. His own act recoils on himself, and he lives only to be despised by those who would otherwise have been his friends.

A smiling face, an oily tongue, and concurrence in your presence of the treatment adopted, with ridicule behind your back and the speedy possession of the groom's favour, is black treachery, and it is to be devoutly hoped few such men exist among us.

Live and let live should be our motto. Whatever the pecuniary advantages railway travelling may confer, or the number of examinations conducted in one sale-yard, that should never be a motive with any one of us for working cheap—in other words, poaching on another man's ground for a fee not only unremunerative, but positively injurious to our position as a body. Never, to my knowledge, have I ever visited a case belonging to another veterinary surgeon without his knowledge and consent. Indeed, I have always made it a practice, and ever shall, to call on the attendant veterinary surgeon when I know there has been one, before going to the patient. In fact, in many instances, as members of the profession can testify, I have, on my arrival at a town to see a case, first called upon them to learn if it had been or was in their hands. The position of a consulting veterinary surgeon is no sinecure, and my endeavour is to "Do unto others as I would be done by." I am sure I should be annoyed if a veterinary surgeon from a distance visited a case of mine unknown to me, and that such an one, with the knowledge that I had been in attendance, passed my door *en route* without calling; I should sum him up in a very few words: *Not a gentleman—certainly not a professional man.*

3rdly. The power of sending our own members to Council cannot be made too much of. Men should be selected, and only men who can fitly and with clean conscience in ethics maintain the prestige of our profession—men above the principle of gaining a large practice at the sacrifice of a good name among their brethren—men calculated by their daily life to elevate and improve our position, and to win respect and admiration from us as a body.

Lastly. Just a word concerning the "forge." I keep one of these necessary evils myself; but I have always maintained, and still do, that it has no more compatibility with a veterinary practice than a boot and shoe shop has with a medical one. True, we have foot cases to deal with; so have medical men—corns, pricks, bruises, etc., but these could be dealt with at a neighbouring forge when necessary, equally well, and without the risk of litigation. It is very well, and there is a certain amount of truth in it, to argue that if Mr. So and So brings his horse to be shod, he will bring it to be doctored; and therefore it is not what the forge pays, but the practice it brings which makes it answer. But is not this trading upon the system of giving a tea-pot with every pound of tea purchased? The profit on the tea pays for the supposed generosity of the gift of the pot, and the doctoring pays the loss on the forge.

A veterinary surgeon opening a forge in a town, as a rule compels the others in defence to do the same. Otherwise I am disposed to think veterinary forges would be few and far between, when we should be able to say,

> "And now we had no cause to rue
> We had left the old system, and begun the new."

These, sir, are some of the thoughts forced into my mind by the perusal of "Ubique's" letter. The impartiality shown by your Journal, the pages of which are thrown open for the expression of professional opinion, invites our attention and deserves our united thanks. A powerful advertisement in itself,

and a contrast in its scientific contributions to its contemporary, it should be supported and strengthened by all well-wishers. If you think fit to allow the efforts of my feeble pen to find a place therein I shall feel obliged, and without fear or favour beg to subscribe myself in plain English,

Yours obediently,

Wolverhampton, *May 24th*, 1880. J. WOODROFFE HILL, F.R.C.V.S.

IMPORTANT NOTICE.

WE have been informed by Mr. J. H. Steel, Demonstrator of Anatomy at the Royal Veterinary College, that he has recently observed, in a horse, examples of *chevron bones* (also known as *subcoccygeal* and *hypsiloid* bones). These have not, in so far as we are aware, been heretofore noted as occurring in the *horse*. He has also received specimens of monstrous development of the fore feet of a foal, which he is inclined to believe of the highest importance, as tending to prove the syndactylate composition of the functional "digit" of Equus. One of the specimens he describes as a "cloven foot of a horse," and hopes to show, in a paper which will appear shortly, the principal arguments in favour of the *syndactylate* theory. If this latter can be proved more feasible than the dialydactylate view which is now accepted by zoologists, it will probably very considerably modify the present system of classification of the Ungulata.

ANSWERS TO CORRESPONDENTS.

ERIMUS.—We do not know of any appointments such as those you refer to.

ENQUIRER.—The matter will be referred to in our next issue. There is already a letter received on the subject of the recent Fitzwygram Competition which shall appear next month. No more can be admitted at present.

Communications, Books, Journals, etc., Received.

Communications have been received from A. Broad, London; S. M. Wilson, A.V.D., Colchester; J. A. Nunn, Royal Artillery, Afghanistan; J. W. Hill, Wolverhampton; R. Ward, London; A. H. Santy, Norwich; W. Broughton, Leeds; J. Macqueen, Glasgow; G. Kidney, Belfast; T. Flintoff, 8th Hussars, Afghanistan; "Pferd"; "Enquirer"; R. A. Stock, Lewes; J. Cammack, Cape Town, South Africa; "S. E. D."; A. W. Hill, London; W. Penhale, Barnstaple.

BOOKS AND PAMPHLETS: Annual Report of the United States Commissioner of Agriculture; *R. Raimbert*, Les Nouvelles Acquisitions sur les Maladies Charbonneuses; *R. V. Tuson*, Pharmacopœia of Veterinary Medicine; *D. Hertwig*, Die Krankheiten der Hunde und deren Heiling; *W. S. Greenfield, M.D.*, The Nature, Causes and Prevention of Splenic Fever, Quarter-Evil, etc.

JOURNALS, ETC.: *American Veterinary Review; Saint Louis Medical and Surgical Journal; Annales de Méd. Vétérinaire; Journal de Méd. Vétérinaire et de Zootechnie; L'Echo Vétérinaire; Recueil de Méd-Vétérinarie; Revue Vétérinaire; Live Stock Journal; Lancet; Field; Medical Press and Circular; National Live Stock Journal; Edinburgh Medical Journal; Mark Lane Express; Archives Vétérinaire; Wochenschrift für Thierheilkunde; Medical Times and Gazette; Archiv für Wissenschaft und Prac. Thierheilkunde; Der Thierfreund; Der Thierarst; Repertorium der Thierheilkunde; Archivio Veterinaria; Archives of Comparative Medicine and Surgery; Deutsche Zeitschrift für Thiermedicin.*

NEWSPAPERS: *Scotsman; Irish Times; Glasgow Citizen; Wilts and Gloucestershire Standard; Darlington and Richmond Herald; Dumfries and Galloway Saturday Standard.*